

MGNREGA as an Environmental Policy: A Case Study of Pithoragarh, Uttarakhand

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Abstract: Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGA) is a widely practiced policy of the Government of India in the area of rural employment generation and poverty alleviation. While it has clear economic objectives, it also has a host of environmental benefits. Proper implementation of the scheme can generate a stream of economic, ecological and environmental services. The present study covers three villages of the state Uttarakhand which lies in the midst of the Himalayas. These small, medium and large sized rural areas have gained significantly by MGNREGA.

The MGNREGA works have generated employment and income, improved connectivity and reduced migration to urban areas in search of jobs. On the other hand, there have been distinct improvements in the standards of sanitation, resource use, water conservation, etc. However, there is considerable scope in the MGNREGA for improvement in terms of efficiency, institutional support, policy formulation and implementation. The paper brings forward the dual - economic and environmental - benefits of MGNREGA and also highlights improvements which can make it one of the largest and most productive rural employment scheme with significant environmental benefits.

Keywords: MGNREGA, rural development, poverty, employment, environment, energy.

1. Poverty Alleviation and Employment Generation in India

India is a country whose soul lies in her villages. There are nearly 6,40,867 villages with a population of almost 83 million that accounts for 68.84% of the entire population. The major source of livelihood in the rural

sector is agriculture. Indian villages in general are submerged in abject poverty that is reflected in unemployment, low income and suboptimal quality of life. Therefore, development of agriculture and villages lie at the center of the overall socio-economic development of the country. As Mahatma Gandhi once said, the real progress of India does not mean simply the growth and expansion of industrial urban centers but mainly the development of the villages.

Poverty alleviation was recognized as one of the principal objectives of economic planning in the country during the fifth five year plan (1974-1979). Various schemes for rural development were designed in the following decades (Sharma, 2013). These include Integrated Rural Development Programme, IRDP, (1978); National Rural Employment Programme, NREP (1980); Rural Landless Employment Guarantee, RLEG (1983), Jawahar Rozgar Yojana, JRY (1989), Employment Assurance Scheme, EAS (1993), Jawahar Gram Samridhi Yojana, JGSY (1999); Swarna Jayanti Gram Yojana, (1999); Sampoorna Gramin Rozgar Yojana, SGRY (1999), National Food For Work Programme, NFWP (2004) and National Rural Employment Guarantee Scheme, NREGS (2006).

Mahatma Gandhi National Rural Employment Guarantee Scheme, MGNREGA (2005) is also one of the schemes for poverty eradication through employment generation. The primary objectives of MGNREGA are to provide wage employment opportunities and to create a sustainable rural livelihood through regeneration of the natural resource base, i.e. augmenting production and supporting creation of durable assets (GoI, 2005).

The objective of the present study is to assess and evaluate the impact of MGNREGA on the rural sector through a study of three villages in the Pithoragarh district of Uttarakhand, India. While generating rural employment and mitigating poverty, MGNREGA is also expected to

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improve the environment. A village needs environmental sustainability along with sustainable economic development.

2. MGNREGA: An Overview

Programmes targeted at rural employment generation typically provide unskilled manual workers with short term employment in public works such as irrigation, infrastructure and road construction. Mahatma Gandhi National Rural Employment Guarantee Act, 2005 is perhaps the largest and most ambitious social security and public works programs in the world.

2.1 Definitions

The act defines the following for its implementation for the eligible rural households: (a) 'Adult' means a person who has completed his eighteenth years of age. (b) 'Applicant' means the head of a household or any of its other adult member who has applied for employment under the scheme. (f) 'Household' means the members of a family related to each other by blood, marriage or adoption and normally residing together, sharing meals or holding a common ration card. (g) 'Implementing agency' includes any department of the central government or a state government, a *zila parishad*, panchayat at intermediate level, gram panchayat or any local authority or government undertaking or non-governmental organization authorized by the central government or the state government to undertake the implementation of any work taken up under a scheme. (h) 'Minimum wage' in relation to any area means the minimum wage fixed by the state government under section 3 of the minimum wages act, 1948 for agricultural labourers as applicable in the area. (k) 'Preferred work' means any work which is taken up for implementation on a priority basis under a scheme. (n) 'Project' means any work taken up under a scheme for the purpose of providing employment to the applicant. (o) 'Rural area' means any area in a state except those areas covered by any urban local body or a cantonment board established or constituted under any law for the time being in force. (r) 'Unskilled manual work' means any physical work which any adult person is capable of doing without any skill or special training (GoI, 2013).

2.2 Guarantee Scheme and Employment

The Act provides guarantee to employment through various clauses. According to it, the state shall guarantee employment to every household where adult members volunteer to do unskilled manual work which is not less than one hundred days of such work in a financial year in accordance with the scheme. Every person who has done

the work given to him under the scheme shall be entitled to receive wages at the wage rate for each day of work, the disbursement of daily wages shall be made on a weekly basis or, in any case, not later than a fortnight after the date on which such work was done. Every state government shall make a scheme within 6 months from the date of commencement of act by notification. If an applicant for employment under the scheme is not provided such employment within 15 days of receipt of his application seeking employment or from the date on which the employment has been sought in the case of an advance application, whichever is later, he shall be entitled to a daily unemployment allowance.

Schedule I of the National Rural Employment Guarantee Act 2005 contains minimum features of a rural employment guarantee scheme. According to section 1, the focus of the scheme shall be on the following works in their order of priority: 1. Water conservation and water harvesting; 2. Drought proofing (including afforestation and tree plantation); 3. Irrigation canals including micro and minor irrigation works; 4. Provisions of irrigation facility to land owned by households belonging to the scheduled castes and scheduled tribes or that of the beneficiaries under the *Indira Awas Yojana* of the government of India; 5. Renovation of traditional water bodies including desilting of tanks; 6. Land development; 7. Flood control and protection works including drainage in water logged areas; 8. Rural connectivity to provide all-weather access; 9. Any other work which may be notified by the central government in consultation with the state government (GoI, 2012).

2.3 The Extended New Guidelines

There have been other demands from various states for inclusion of new works that would create an even stronger positive synergy between MGNREGA and agriculture and allied rural livelihoods. In response to these demands, the central government has, vide notification dated 4th May 2012, amended provision in schedule I to include an additional list of permissible works under MGNREGA and has also issued separate work guidelines for these works. As per the new guidelines the works under MGNREGA include: 1. Water conservation and water harvesting that includes (a) continuous contour trenches/furrows, staggered trenches, box trenches, (b) sunken ponds, (c) gully plugs, (d) boulder check, (e) gabion structures, (f) ponds, tanks, percolation tanks etc, (g) underground dyke, (h) earthen dam, (i) spring shed development including staggered trenches and plantation, (j) check dam, anicut, stop dam, (k) artificial recharge of well through sand filter; 2. Drought proofing

including afforestation & tree plantation through (a) nursery raising, (b) eco restoration of forest, (c) afforestation to cover degraded forest and barren land under afforestation, (d) grass and development & silvipasture, (e) road/ canal side plantation, (f) block plantation; 3. Irrigation canals including micro and minor irrigation aimed at (a) construction of canal distributaries, (b) lining of canals, (c) rehabilitation of minor and sub minor works such as community well for irrigation; 4. Provision of irrigation facility, horticulture, plantation and land development on individual land including (a) construction of water courses/field channels, (b) lining of water courses/ field channel, (c) dug well, (d) dug out farm pond/ diggi/ tank, (e) horticulture plantation, (f) Boundary plantation, (g) block plantation, (h) sericulture (land development and Mulberry plantation), (i) construction of contour/ graded bund/ farm bunding, (j) land leveling and shaping, (k) reclamation of saline / alkaline land; 5. Renovation of traditional water bodies including desilting of tanks including (a) desilting of tanks, *talab* and ponds and other traditional water bodies, (b) repair, renovation and restoration of tanks, *talab*, ponds, check dam, escape, weirs and control structures; 6. Land development involving (a) reclamation of salt affected land for production measures like tree plantation/ silvipasture, (b) development of waste land; 7. Flood control including (a) diversion channel, (b) diversion weir, (c) peripheral/ cross bund, (d) drainage in water-logged areas, (e) deepening and repair of food channels, (f) *chaur* renovation, (g) construction of storm water drains for coastal protection, (h) construction of intermediate and link drains; 8. Rural connectivity including (a) *mitti murram* road, (b) gravel road, (c) WBM road, (d) C.C road, (e) inter-locking cement block road, (f) brick *kharanja*, (g) stone *kharanja*, (h) cross drainage; 9. Bharat Nirman Rajiv Gandhi Sewa Kendra (BNRGSK) including (a) New construction and (b) extension of panchayat *bhawan*; 10. Agriculture related works that include (a) NADEP composting, (b) vermicomposting, (c) liquid bio-manures: *sanjeevak* or *amrit paani*; 11. Livestock related work including (a) poultry shelter, (b) goat shelter, (c) cattle shelter, (d) *Azolla* as cattle feed supplement; 12. Fishery related works including fisheries in seasonal water bodies on public land which include excavation of pond and fish drying platform; 13. Works in coastal areas including (a) fish drying yards, (b) belt vegetation; 14. Rural drinking water related works including (a) soak pits, (b) recharge pits (for point recharge), (c) dug wells; 15. Rural sanitation related works including (a) household latrines with specification as per the Total Sanitation Campaign, (b)

school toilet units, (c) *Aanganwadi* toilets, (d) solid and liquid waste management (SLWM).

A close look at the policy areas will reveal that MGNREGA is focused at ecological balance and environmental sustainability along with providing employment guarantee (GoI, 2013). A study of *Chitradurga* district of Karnataka has shown that this act has provided multiple environmental benefits (Kumar et al., 2013). It has resulted in increased ground water, increased water percolation and enhanced water storage in tanks. There have also been records of increase in soil fertility, reclamation of degraded lands and carbon sequestration. There has been an increase in crop and livestock production and a reduction in the vulnerability to poor soil quality and low rainfall.

2.4 Methodology

MGNREGA was notified on 7 September 2005. In its first phase in 2006, the act was notified in 200 rural districts. Another 130 rural districts were notified in the second phase in 2007. The Government of India notified all the remaining districts under MGNREGA in the third phase that started in 2008 with the exception of the nine districts that have a 100% urban population (Census, 2001). At present, nearly 631 districts in country are covered under this scheme. Uttarakhand is a predominantly rural state with about 74% of its population living in 15,667 rural settlements. 80% of the total number of villages are small with population less than 500, 10% of the villages have population within 500 to 1000 and the remaining villages have over 1000. Three districts were notified by government in the first phase, two more in the second phase and finally all the thirteen districts including Pithoragarh, were notified by the government under the MGNREGA in the third phase in 2008. All the villages in the three districts of Pithoragarh have the same type of mechanism to provide work. Those enrolled are divided into groups and work is assigned to groups by rotation. The *gram sabha* ensures that all groups get work which is four to five times in a year on an average.

3. Study Area

The study area consists of three villages, namely, Lelu, Suwakot and Kusauli in district Pithoragarh (Fig 1.).

3.1 Location

The study area is part of the hilly region of Kumaon in the state of Uttarakhand. It lies between the latitude 29°27' and 30°49'N and longitude 79°50' and 81°3' E. The altitude is between 1,530 m and 1,610 District

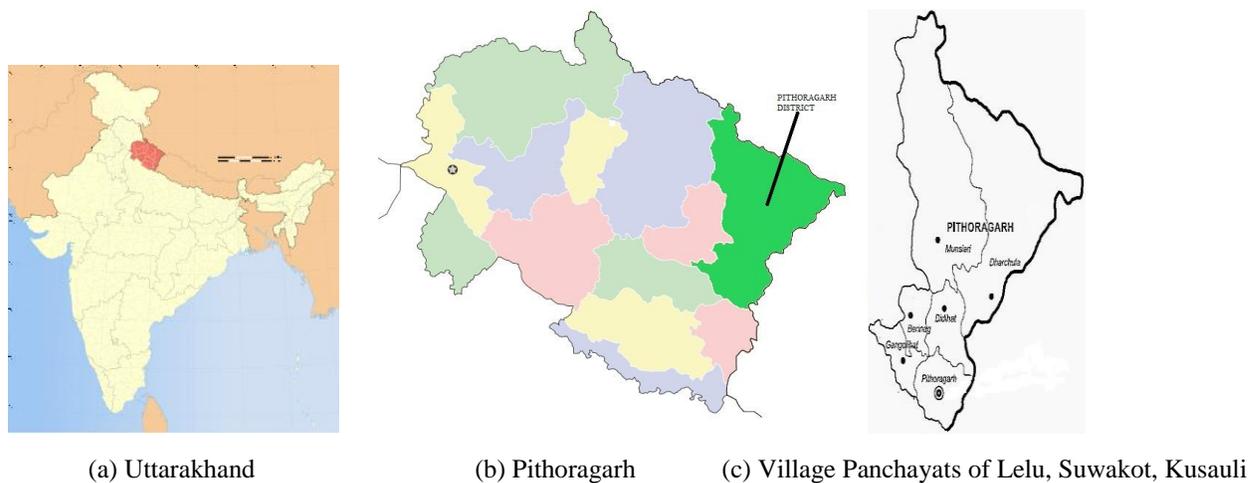


Figure 1. The Study Area: Lelu, Suwakot, Kusauli.

Pithoragarh is 485 kilometers away from Dehradun, the capital of the state Uttarakhand. The nearest airport is Pithoragarh (Naini-Saini airstrip) and nearest Railway station is Kathgodam. Although the larger area is remote, the three villages selected for the study are within a radius of 10 km. All the three villages are located in the Pithoragarh Tehsil and under the block Pithoragarh. Gram Panchayat Lelu consists of eight small villages called Tilad, Tarauli, Talkot, Malkot, Sann, Maregaon, Balsuna, and Nagina. Gram Panchayat Suwakot consists of villages Talla Suwakot, Malla Suwakot and Wadda. Gram Panchayat Kusauli consists of village Kusauli only.

3.2 Demography of the Area

Villages Lelu, Suwakot and Kusauli have been selected for the study on the basis of their differing population sizes in order to capture the effects of the scheme on large, medium and small villages. While Lelu hosts 485 families, Suwakot has 216 and Kusauli has only 55 families. The basic demographic parameters of the area are summarized below.

Table 1. Demography of the Study Area (Census, 2011)

Village	Suwakot	Lelu	Kusauli
Population (numbers)	2147	2591	978
Number of households	421	581	244
Literacy rate (%)	89.94	82.63	88.24
Sex ratio (per 1000)	677	1122	1038

3.3 Geography of the Area

According to geological formation, the district may be divided into four broad belts: (1) the innermost Siwalik hill ranges, (2) the lesser and middle Himalayas, (3) the inner Himalayas and (4) the thin belt bordering the

Tibetan Himalayas, roughly tending east-south-east. The study area lies in the innermost Siwalik hill ranges. Many minerals like copper, Magnesite, Soapstone, Arsenic, Sulphur, Kyanite, Graphite, Slate, Limestone, etc. are found in various parts of the district.

The elevation of the district ranges from 500 m. above sea level in the valleys in the south to over 7,000 m. in the snow-bound Himalayas in the north and north-west. The climate, therefore, largely depends on altitude and varies according to aspect and elevation. Winters are severe. As most of the district is situated on the southern slopes of the Himalayas, monsoon currents penetrate through the deep valleys and rainfall is at the maximum in the monsoon season (June to September), particularly in the southern half of the district. The northern half of the district also gets considerable rainfall during the winter season which lasts from mid-November to March. Most of rainfall occurs during the monsoon period. In the monsoon season there are a few occasions when there are spurts of heavy rain in the hills causing floods in the rivers. The rainfall decreases rapidly after September and is the lowest in November. During winter, from December to March, considerable precipitation occurs in association with the passage of western disturbances across the region, the average rainfall of the district is about 36.7 cm. and this necessitates an efficient water management policy.

There is no meteorological observatory in the district. The account of the climate is based mainly on the records of the observations in the neighboring districts where similar meteorological conditions prevail. Variations in temperature are considerable from place to place and depend upon elevation as well as aspect. As the insolation

is intense at high altitudes, in summer temperatures are considerably higher in the open than in the shade. January is the coldest month with a mean maximum temperature of 10°C at heights of 2,000 m. above sea-level, the mean minimum temperature being at the freezing point (0°C.). Cold waves in the wake of western disturbances often make winter conditions severe. With the onset of the monsoon towards the end of June, day temperatures fall by about 3°C to 5°C.

3.4 Flora and Fauna

Flora of the district may be divided into four main divisions: the Sal forest, Chir forests, Oak forests and the Coniferous forests. The willow and older trees are, however, common everywhere in damp situations. The deodars are introduced plants in the district but have become wild. The study area was also located around the Chir forest and the Sal forest. There were many medicinal plants found in the area. The type of vegetation has a direct impact on the fuel use pattern of the residents who use fuelwood for domestic purposes.

There is a huge diversity in the fauna of area. Animals like goral or Himalayan chamois, tiger, panther, the Himalayan Black bear, jackal, Sambar, kakar (barking deer), musk deer, Nilgai, Bharal (wild blue sheep), snow leopard, red bear, etc. are also found in the different parts of the district. There are 34 species of snakes which are found in the district, out of which 26 varieties are non-poisonous and 8 are poisonous. The cobra is found up to an elevation of 1,800 m. The area is also very rich in bird diversity. Birds of prey like eagles, hawks, falcons and vultures, the Himalayan Griffon vulture are very common. Among the other bird species are the lungi pheasant, monal pheasant, kokla, chir pheasant, kali, black partridge, chakor, wood pigeon, etc.

4. Impact of MGNREGA in Selected Villages

To study the impact of MGNREGA, a sample of 25 was chosen from each village after a pilot survey. The household survey was conducted on nearly 72 people across villages. The main occupation in the area is agriculture. While some have agricultural holdings, some others work as agricultural laborers and wage laborers. Most of them revealed that the small holdings were insufficient for the annual consumption. Therefore, they were dependent on the public distribution system. There were also retired army men who receive pensions and have come back to the native villages. Nearly 44 % of population was in the age group of 31-40 years, 22 % was in the age group of 41-50 years, 21 % in the 18-30 years of age group and 13 % in the age group of more than 50 years. The random sample consisted of nearly 43 females

and 29 males. This reveals the good sex ratio and larger female workforce participation in the area. The number of women registered in the scheme under study was also found to be greater than that of men.

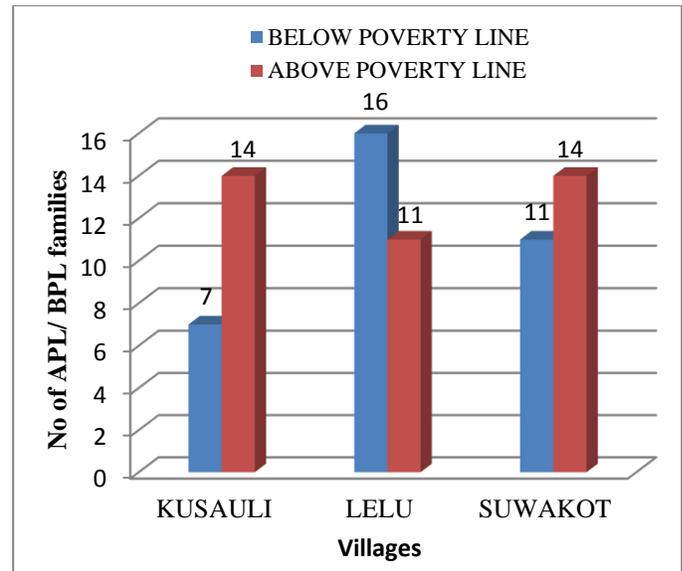


Figure 2. Poverty status of households in the study area.

The number of people above poverty line exceeds that below the poverty line on official records (Fig. 2). However, many respondents reported administrative and institutional lapses in the registration process. As a result, many of them miss the opportunity of getting into these schemes. The findings of the study are discussed below.

4.1 Migration

Because of the lower employment opportunities, migration with seasonal variations is a very common feature in the hills. The survey revealed a sharp decline in the migration rates after the introduction of MGNREGA. Not only there are new employment schemes, the wage rates have also been revised. The official daily wage rate in the study area was Rs. 125/-. Figure 3 clearly brings out the decline in migration in all three villages.

4.2 Employment

MGNREGA has helped reduce the extent of unemployment in the area. However, the extent of reduction is not very large (Fig. 4). One reason for that is in the mindset of the people. They consider MGNREGA only as a temporary employment opportunity during the agricultural off-season. Another reason is the lack of unemployment allowance that people are supposed to get during the days of no work within the scheduled period of 100 days. Respondents revealed that such periods are as long as 50 days. However, people felt that the scheme has

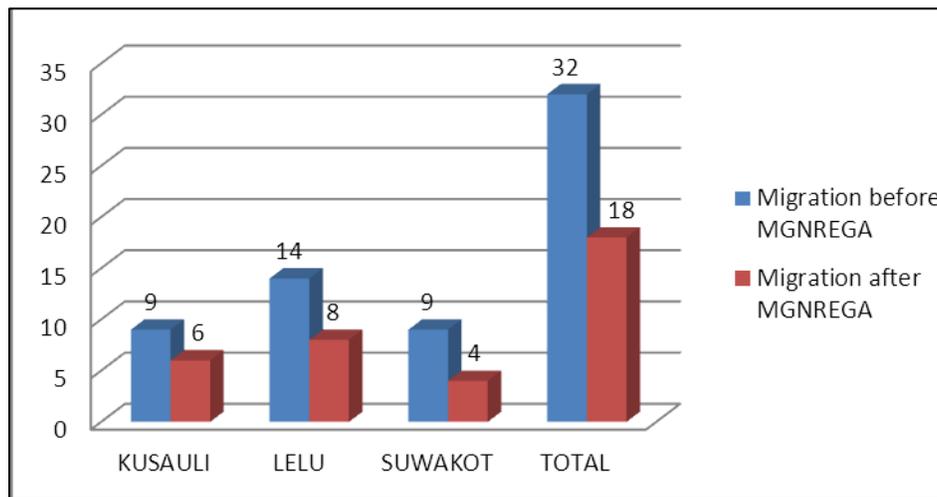


Figure 3. Effect of MGNREGA on migration.

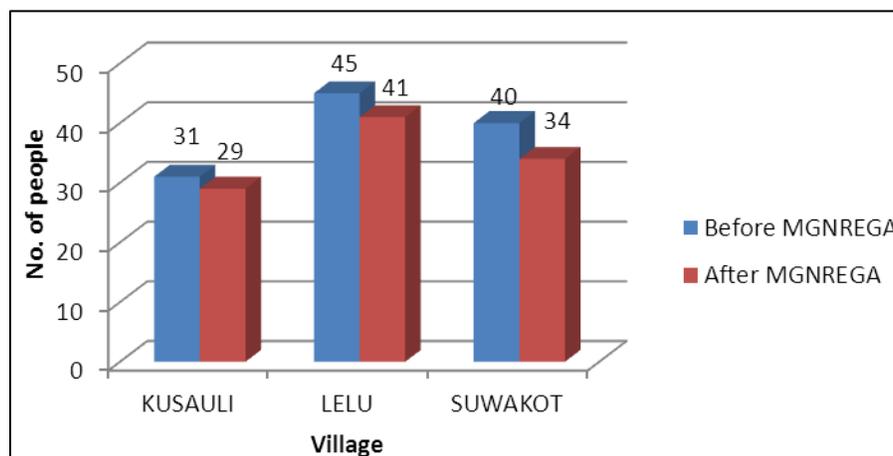


Figure 4. Unemployment status before and after MGNREGA.

helped them create some assets and generate some additional income.

4.3. Connectivity

The connectivity in the widely spread hilly terrains has improved due to the construction of roads under MGNREGA. While those who do not commute much did not perceive the change, the others felt a definite improvement in connectivity in the villages studied. More than 50% respondents felt that connectivity had improved in their village after the implementation of MGNREGA.

4.4. Sanitation

Although sanitation was not under MGNREGA in the initial phases, the Government later merged it with the Total Sanitation Campaign. Therefore, construction of individual household latrines, school toilets units and

anganwadi toilets are now considered work under the scheme. Village Kusauli was already a *Nirmal Gram*, which means all the households in that village had sanitation facility even before MGNREGA. Sanitation facilities in Village Lelu were also already good and were only slightly improved after MGNREGA. Village Suwakot seems to have benefitted the most from MGNREGA as sanitation facilities in this village almost doubled after the implementation of MGNREGA.

4.5. Electricity Consumption

The pattern of electricity consumption is a major indicator of rural development. While power generation creates employment on one hand, it indicates the opportunity to engage in power-driven activities on the other. Any work under public schemes can also benefit from the availability of power and power-driven tools. The average

consumption of power across villages is 50-100 units of electricity per month. A significant portion of the population in the sampled villages consumes less than 50 units per month while a few have consumption above 100 units.

4.6. Use Pattern of Domestic Fuel

Because of the availability of wood in the nearby forests, many households use wood as the principal fuel. Their livelihood depends on these common property resources in a big way. LPG is a supplementary fuel in Lelu and Suwakot. Kusauli, which is the most developed among the three, has a larger use of LPG. An interesting observation is the non-existence of coal in all three villages. In total, 49% of households use a mixture of wood and LPG for meeting their daily domestic fuel requirements. 32% of the households depend only on wood for the domestic fuel requirements while only 19% of the surveyed households depend on LPG gas to meet their domestic fuel requirements.

4.7. Water Use and Availability

Hills are typically water-scarce. Moreover, agricultural households have cattle. This indicates a shortage of drinking water for the people. However, a majority of the people surveyed have indicated a daily water consumption of 200-400 litres. This may be due to an efficient water management system and water conservation works under Government schemes. It was found in the survey that villagers depend totally on the rainfall for the purpose of irrigation. There was no irrigation work and agricultural activities were based on terrace cultivation. However, water conservation was taken up as a part of MGNREGA. The traditional water bodies in the villages which were primary sources of drinking water were restored. The respondents agreed that they have benefitted from such works.

4.8. Institutional Efficiency

Institutions form the basis of the success of any project. While MGNREGA has been a great initiative towards rural employment, poverty alleviation and environmental sustainability, it has not been institutionally very efficient. All the respondents felt that the system needs to be more transparent. Participation is also less than optimal with the 'Gram Sabhas' (village council) holding meetings only once or twice in a year. A recent report from CAG pointed at the high level of corruption and huge irregularities in the scheme.

5. Observations and Survey Summary

A close examination of the various parameters reveals that MGNREGA has had an impact on the rural economy.

The three villages in the hills have surely benefitted from the scheme. There have been distinct economic benefits in the form of increased employment, connectivity and reduced migration. The scheme has provided sources of additional income, though less than its full potential. The overall living condition has improved in some areas with better access to cleaner fuel and electricity.

Some significant changes have also taken place in the environmental domain. Sanitation has come under the priority list. Traditional water sources have been renovated for the purpose of water storage and distribution. However, irrigation facilities did not improve much because of lack of planning, priority and research. Rainwater still remains the major source of water supply for agriculture. While MGNREGA had a large scope for rural development, it has fulfilled its aims partially. The system has various drawbacks in policy formulation and more significantly in its implementation. Misuse of state machinery, corruption and irregularities have been part of a bigger institutional failure.



Exhibit A. Work under MGNREGA in Village Suwakot.

6. Conclusion and Recommendations

MGNREGA is by now a widespread scheme in all the rural districts of India. However, there is scope for a lot of improvement to make it more inclusive, efficient and productive. Such works have huge potentials to sustain and improve the rural environment. The emphasis on resources such as, water, forests, etc. is imbibed in the targets. Such activities have clear environmental activities while being employment generating in nature.

In view of the less than optimal success of the scheme, some policy recommendations may be made on the basis of the findings in the study. These are, 1) More work needs to be added according to the specific geographical conditions of the areas in order to develop more

sustainably; 2) Physical structures constructed under MGNREGA are assets requiring maintenance and/ or protection. Maintenance is necessary to sustain the delivery of environmental benefits, such as, continued ground water recharge from a check dam and structures to store water. Maintenance, along with construction, should be an integral part of MGNREGA; 3) There is a need of technical and expert support in some works, such as, during the formation of check dam, choice of site etc. This requires to be integrated to the schemes; 4) Many respondents felt that the wage rate should be Rs. 150 per day and the number of days should be Rs. 120. This may be scrutinized before implementation in the next phase. Similarly, unemployment allowance needs to be regularized; 4) There is a clear need to check corruption, bring in transparency and improve institutional efficiency.

MGNREGA has been found to have performed moderately in the villages of Uttarakhand. While it has direct economic motives, it has a wide range of environmental services. Improving the current drawbacks along the lines mentioned above, it can become an effective economic program as well as an environmentally sustainable policy.

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