Impact of MGNREGA ON Migration and Asset creation

Report Submitted to

International Crop Research Institute for the semi-Arid Tropics

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To Whomsoever It May Concern

This is to certify this project report on "**Impact of MGNREGA on Migration and Asset creation*"*** is a bonafide record of work done by ***Ms. Nandini singh*** under my supervision and submitted to International Crops Research Institute For Semi- Arid Tropics, Patencheru, Andhra Pradesh, India.

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DECLARATION

I do hereby declare that the dissertation entitled upon **"Impact of MGNREGA on Migration and Asset Creation"** is an original and independent record of project work undertaken by me under the supervision of Dr. Madhusudan Bhattarai at **International crops research institute for the semi-arid tropics**(ICRISAT), Patencheru, India, during the period of my study as a part of my summer internship.

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Abstract

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Abstract

MGNREGA is one of the most important and largest public programme in India. The main objective of this programme is to provide 100 days of assured employment to rural household and to create sustainable asset. In this paper we have studied the secondary objective of MGNREGA that is to reduce migration and creation of sustainable asset. In this paper we work on migration data for 2007-08 NSSO data. By our analysis we find that Migration is a complex process, it is not always done due to poverty and desperate situation, but complex factors (facilities, education). People are migrating due to lack of adequate agricultural land, inadequate agricultural production, less irrigation facility, and acute water scarcity. At the meso level analysis, correlation between MGNREGA and Migration is very weak. From the literature as well as supported by the micro-assessment, MGNREGA is helping poor and weaker section of the community by providing employment at critical period of a year (seasonal migration). In principal, NREGA can help to reduce temporary migration but is ineffective in long period, when several factors would change together.

Contents

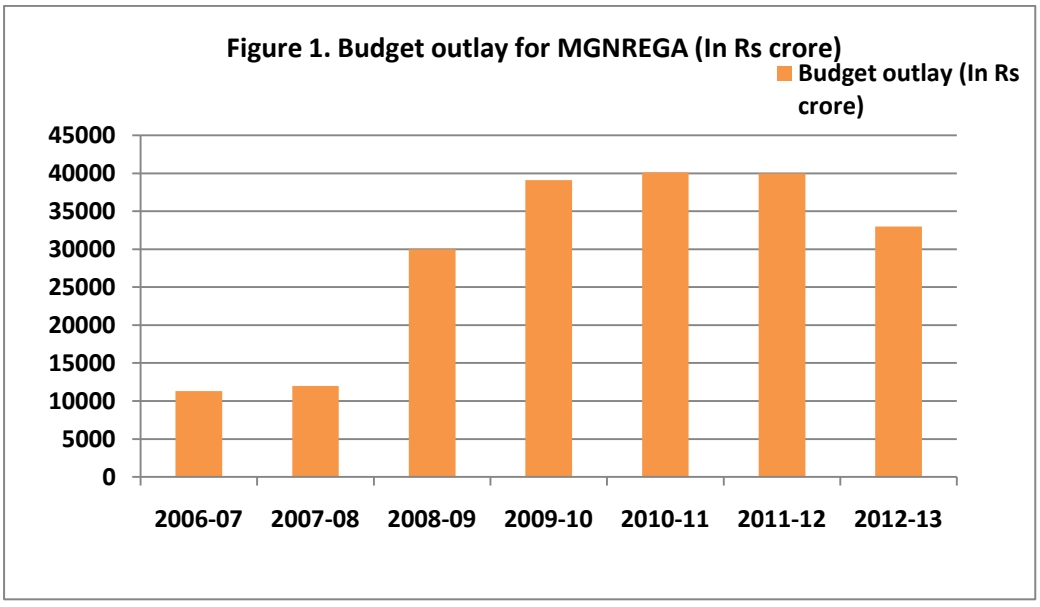
List of tables and figures

1. Introduction

In the past 66 years India has developed a lot, In spite of this development India still ranks 134 in human development index. This journey from under developed country to a developing country has brought many changes some good some bad but still there are some issues which still are the same for example poverty and unemployment. In these past 6 decades a lot has been done to improve them and one such measure was taken on Aug 25 2005 in the name of NREGA. NREGA was adopted by Indian government to reduce rural unemployment and poverty so that it leads to reduction of rural-urban migration in search of employment. Being the largest public work program a lot has been expected from NREGA since its inception and thus it has always been in limelight. NREGA is different from earlier employment programmes launched by government of India as on one hand it is a demand driven scheme while on the other hand it treats employment as right of rural household. This scheme provides income directly to unskilled workers in rural areas.

There are many people against this scheme who think that it is just another instance of a large chunk of public money being flushed down the drain in pointless rural development work. A lot of case has been reported of NREGA workers gigging ditches and refilling them at work site, of workers not being paid wages and of inflated muster rolls with not existent workers. Despite these challenges it can be clearly seen from last NREGA report that number of households with NREGA are increasing constantly and also are the number of days providing employment. One of the major achievements of this scheme is increasing participation of women. By proving equal wage rate to men and women this scheme has empowered women economically and socially.

NREGA funding has increased drastically by total budget outlay of 11300 in 2006-07 to 33000 in 2012-13 as can be seen from fig 1.



The main objective of the Mahatma Gandhi NREGA is to meet employment demand. In 2012-13, 4.48 crore households were provided employment and 163.38 crore person days of employment were generated. Being self targeting in nature the programme had high work participation from marginalized groups like SC/ST (38%), Women (53%) in 2012-13. This scheme has helped in strengthening the natural resource base as in 2012-13, 64.54 lakh works were undertaken, of which 58% for water conservation, 12% for the provision of irrigation facility to land owned by SC/ST/BPL and IAY beneficiaries, 18% for rural connectivity and 8% for land development. With a view to universalise the system of wage payments through individual accounts, it has been recommended to all States to disburse wages through Post Offices and Bank Accounts. 8.71 crore (as per MIS) Mahatma Gandhi NREGA bank and post office accounts have been opened to disburse wages, thereby taking financial inclusion of poor into account. During the financial year 2012-13 the average person days of employment per household is 33 days. The percentage of women participation was 47 as compared to the national average of 53. The percentage of HHs which completed 100 days of employment is 4.24 as compared to national average of 4.59.

1.1 MGNREGA - A Brief Overview

Mahatma Gandhi national rural employment guarantee act (MGNREGA) was enacted by legislation on Aug 25, 2005 and is the largest public program in India, initiated by the UPA government. It started in 2005-06 with 200 districts and slowly extended to another 130 districts in 2007-08 and to all remaining 285 rural districts in 2008-09. Under this act every adult member of rural household is entitled to at least 100 days guaranteed wage employment in a financial year, if volunteered to do unskilled manual work. Here all rural families are entitled to apply for participation and get job card issued. Some of the salient features of MGNREGA are as follows:

- All adult members of a rural household willing to do unskilled manual work have the right to demand employment.
- Such a household will have to apply registration to the Gram Panchayat.
- After verification, the Gram Panchayat will issue a Job Card with photograph of all adult members of the household willing to work under the programme.
- The Job Card must remain in the custody of the household.
- Job Cardholder can apply for work to the Gram Panchayat which will issue him/her a dated receipt of the work application.
- Employment will be provided by the Gram Panchayat (local self governing body) within 15 days of work application, failing which unemployment allowance will be paid.
- Disbursement of wages has to be done weekly basis and not beyond a fortnight.
- Wages will be paid at the wage rate to the wage earners through their Bank/Post office accounts.

- An annual shelf of works to be prepared in advance for each year.
- A ratio of 60:40 for wage and material costs should be maintained at GP level.
- No contractors/and no labour-displacing machinery shall be used in execution of works.
- Panchayati Raj Institutions will have a principal role in planning, monitoring and implementation
- At least one-third of the workers should be women.
- Inbuilt incentive-disincentive structure to the State Government for guaranteeing employment.

According to NREGA Act funding under this scheme is shared by central and state government.

The Central Government bears the costs on the following items:

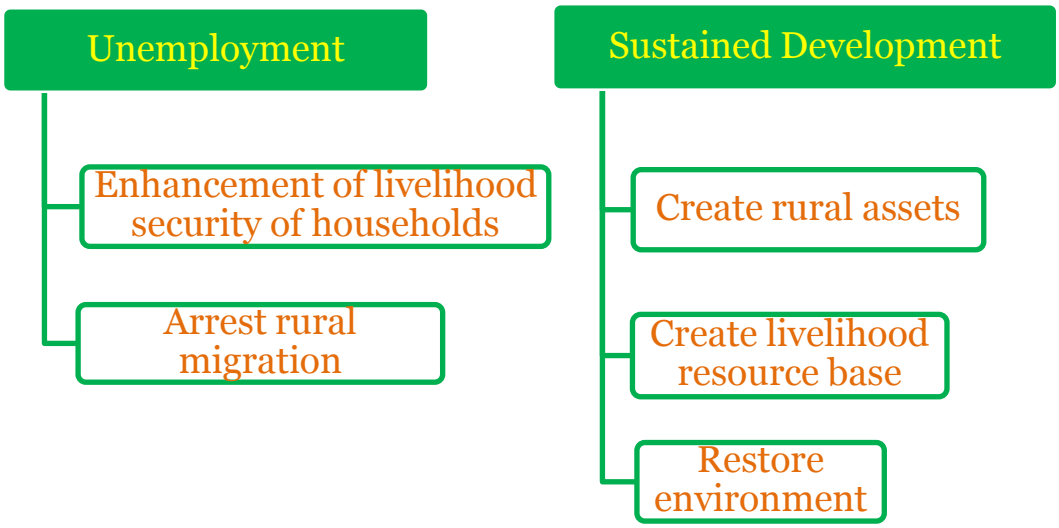
- The entire cost of wages of unskilled manual workers.
- 75% of the cost of material, wages of skilled and semi-skilled workers.
- Administrative expenses as may be determined by the Central Government, which will include, inter alia, the salary and the allowances of the Programme Officer and his supporting staff and work site facilities.
- Expenses of the Central Employment Guarantee Council.

The State Government bears the costs on the following items:

- 25% of the cost of material, wages of skilled and semi-skilled workers.
- Unemployment allowance payable in case the State Government cannot provide wage employment on time.
- Administrative expenses of the State Employment Guarantee Council.

1.2 Objective of MGNREGA

MGNRAGA has basically two main objective firstly to reduce unemployment and secondly to create a sustainable environment. In this paper we are going to discuss its impact on its secondary objective's of reducing Migration and creating rural assets.



2. Research objective

1. To Assess, synthesize and review the historical trend of the Migration in India.
2. To review and synthesis impact of MGNREGA on process, pattern and level of migration across states.
3. To review and synthesis impact of migration on 15 major states of India before and after MGNREGA.

3. Research question

1. What is contribution of MGNREGA in reduction of Migration in relation to other competing factors?
2. What is relation between MGNREGA and Migration?
3. What are the MGNREGA implications on asset creation?

4. Methodology

1. Review of secondary literature on migration and its impact on Migration.
2. Collection of secondary data of out-Migration from NSS 55th and 64th round.
3. Showing correlation between out-Migrants and MGNREGA Intensity.
4. Running Regression on pooled data of 1999-2000 and 2007-2008.

5. Migration

5.1 Migration in general

Rural to Urban migration is a response to diverse economic opportunities across space (Mitra and Murayama, 2008). Poor and backward state show large population mobility, primarily in search of livelihood. Prospect for better job opportunities are major determinant of male migration, women usually migrate to accompany male. Migration plays an important role in urbanisation of a state. In general more the migration higher the urbanisation rate though it

may not be necessarily true in all the situations but in general it is witnessed that migration have a fairly large share in migration. Rapid urban growth is traced to the increasing pressure of population on farmland in densely populated agrarian economy like India (Mitra and Murayama, 2008).

In explaining migration across space income differentials are taken as motivating factor in moving people from low income areas to relatively high income areas (Harris & Todaro, 1970). In rural areas sluggish agricultural growth and limited development of non-farm sector raises the incidence of rural poverty, unemployment and under employment. In the face of high natural growth of population, rural urban migration aggravates the situation of excess supplies of labour in the urban areas. Within the urban informal sector this tends to reduce the level of earning and get manifested in a high incidence of urban poverty. Thus in the process rural poverty gets transformed into urban poverty the phenomenon is also described "urbanisation of poverty" (Harris & Todaro, 1970).

Two major hypotheses (Williamson, 1988) explain the impact of migration on city expansion:

(1) Unusually rapid rates of population growth pressing on limited farm acreage and pushing landless labour into cities. The deficiency of reproducible tangible capital relative to labour in the face of a high population density exacerbates the problem of rural unemployment and underemployment, which in turn fosters the rural-urban population movement. In the face of limited demand for labour in the formal sector, in particular the organized industrial sector, excess supplies in the urban labour market force them to be engaged in the informal service sector. The low rate of growth of industrial employment and the high rate of rural-to-urban migration make for excessive, even explosive urbanization involving a transition from rural unemployment to excessive urban unemployment and underemployment. Within the urban informal sector this tends to reduce the level of earnings and get manifested in a high incidence of urban poverty. Thus in the process, rural poverty gets transformed into urban poverty – the phenomenon is also described as 'urbanisation of poverty'.

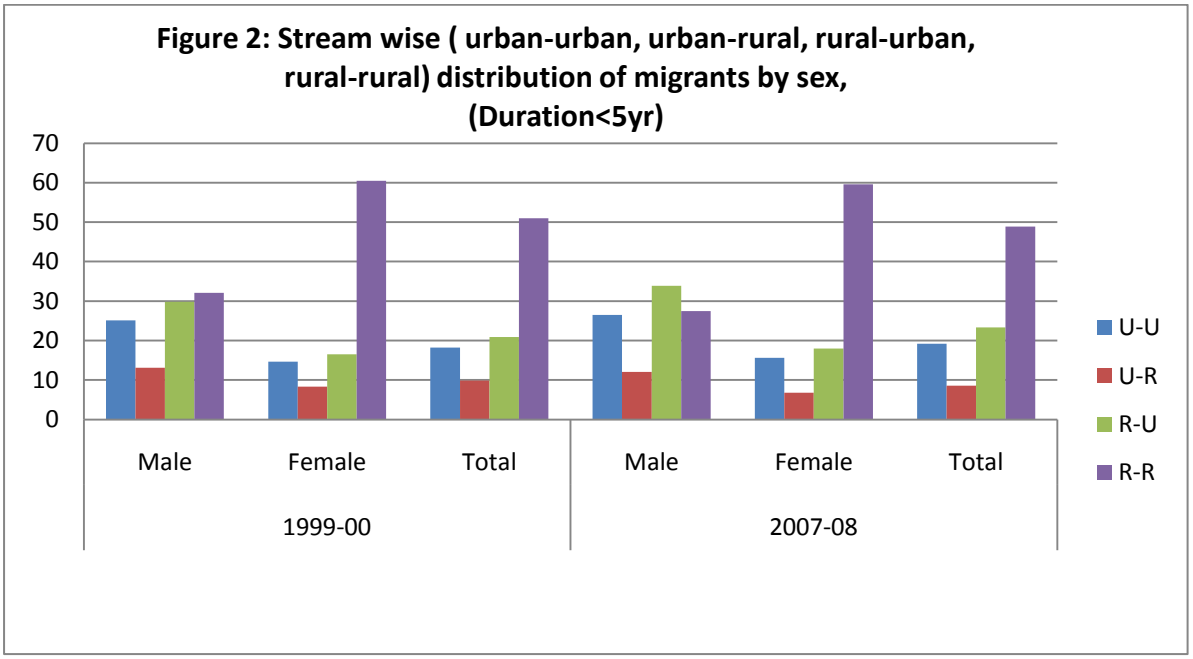
(2) Migrants are being pulled into the cities by the economic forces such as domestic terms of trade squeezing agriculture, the diffusion of technology from the developed world favouring modern large-scale urban industries, foreign capital flows into urban infrastructure, housing, power, transportation, and large-scale manufacturing.

5.2 Type of Migration

Migration is a both old and new human practice. There is no place or time, in which migration does not occur. However, the scale, type and implications of migration vary greatly between individuals and societies. Due to the vast size of the country and large differences in physical and human dispositions across the country, **migration trend in India shows some specific features.**

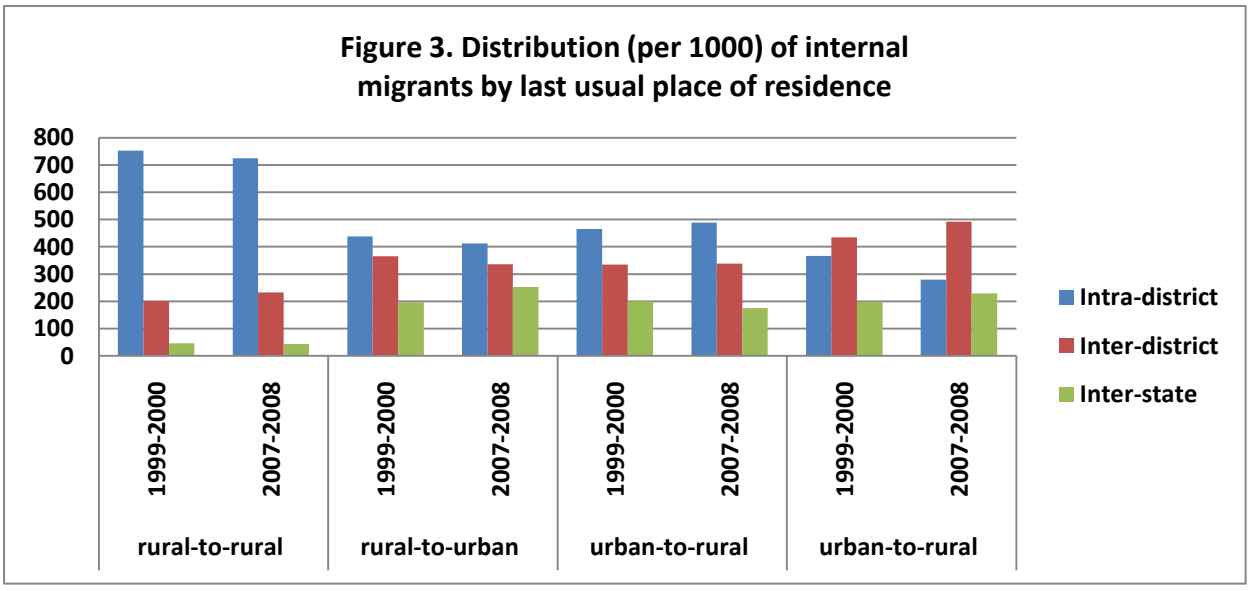
First, among the four types of migration direction-wise, i.e., rural-to-rural, rural-to-urban, urban-to-rural and urban-to urban migration, rural-to-rural migration has been dominant in

1999-2000 and 2007-08. Rural to rural migration among female is highest though it has remained almost constant from 1999-2000 to 2007-2008 as can be seen in fig 2. Rural to urban migration is increasing at a increasing rate and is expected to grow much in near future.



Data from NSS 1999/00 & 2007/08

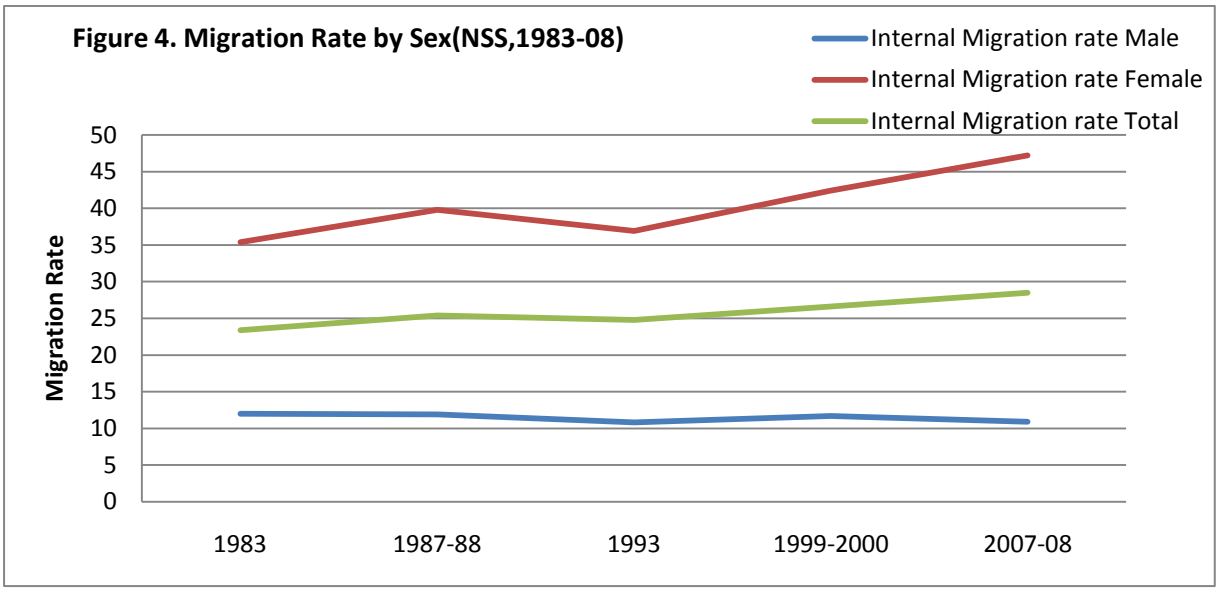
Second, with respect to the distance of migration, intra-district migration is predominant. More than a half of migration took place within the district in both 1999-2000 and 2007-2008 NSSO rounds as can be seen in fig 3. The incidence of migration decreases as the distance becomes longer. Over the year intra-district migration has decreased and inter-district migration is increasing at increasing rate.



Data from NSS 1999/00 & 2007/08

Third, Survey results of NSS 64th round show that at the all-India level, the rural-to-rural migration stream was dominated by intra-district migration (72 per cent) and nearly 96 per cent in the rural-to-rural migration was through intra-State migration. The pattern observed in NSS 55th round is also broadly similar to that observed in NSS 64th round with some minor increase in rural-to-urban and urban to urban migration through inter-State migration in 2007-08.

Fourth, migration streams in India have been dominated by females as can be seen from fig 4.



Source: Ram b Bhagat

Thus, it should be noted that if we take a look at the rural-to-urban migration during the last 10 years, the number of male and female was almost equal in total rural-to-urban flows. While women outnumber men in intra-state rural-urban flows, the number of male was significantly greater in case of inter-state rural-urban migration.

5.3 Inter-state migration and its pattern

Inter-state migration trends, estimated from the NSS 2007–2008 survey show that, in general, gross in-migration rates are higher in high-income states (NSS Report 533, Statement 6.10.) such as Haryana (10.24 per cent), Punjab (7.79 per cent), Maharashtra (5.97 per cent), Gujarat (4.20 per cent), Karnataka (4.11 per cent), and West Bengal. States that have undergone reorganization (including Punjab and Haryana) and also Chhattisgarh and Uttarakhand show high rates of inter-state in‑migration.

Gross out-migration (both inter-state and international) are high for some high- and middle-income states (Kerala, 8.01 per cent; Punjab, 6.52 per cent; Haryana, 6.72 per cent) along with low-income states (Uttarakhand, 7.81 per cent; Bihar, 6.37 percent; Uttar Pradesh, 4.99 per cent; Rajasthan, 3.96 per cent; Jharkhand, 3.37 percent). As a result, the correlation

between gross out-migration rates and per capita NSDP (Net State Domestic Product) is also low, although positive.

Further disaggregating between out-migration to other states and migration abroad, the findings show that international out-migration rates are highest in Kerala, Punjab, Tamil Nadu and Andhra Pradesh. Inter-state out-migration rates are the highest for Uttarakhand and Rajasthan. The correlation between the state's per capita income and out-migration rates between the former is lower (0.27) than the latter (0.40), but both continue to be positive on account of high rates of out-migration in some high – and middle-income states (for example, Delhi, Haryana, Himachal Pradesh and Punjab).

Net inter-state in-migration rates are the highest for Maharashtra (4.1 per cent), followed by Uttarakhand, Haryana and Chhattisgarh. The correlation between these rates and per capita NSDP is high (0.77). The same holds for net in-migration rates. The correlation between the latter and per capita NSDP is also high (0.76). Further analysis is needed to examine the education and skill levels, and nature of employment, of the inter-state migrants across different categories of states. But these results show that while the general trend is towards higher out-migration by low-income states and in-migration into developed states (after taking cognizance of the administrative division of three states in 2000), many of the middle- and high income states also have high out-migration rates and the net inter-state in-migration rates are quite low, with the percentage of inter-state migrants in the highest net in-migrating state also being less than five.

5.4 Literature review

Before looking at the finding of the study let us look at some of the findings and recommendations of the leading experts in this field. MGNREGA being the largest public program has drawn a lot of attention of the leading economists and authors. They have brought focus to lot of problems regarding MGNREGA and it implementation. Though every one of them believed that it had some or the other drawbacks, they also believes that the government of India has finally come up with the scheme that could escape the failings of the past and actually reach the common man in a way all other schemes have been unable to.

Ahuja, Tyagi, Chauhan and Chaudhary (2011) conducted a study in Haryana to check implementation of MGNREGA in two districts — one agriculturally-advanced (Karnal) and the other agriculturally-backward (Mewat). In this they found that the farmers owning large size of landholdings and more number of livestock are not much interested in participating in MGNREGA works as they are busy in their own activities. The farmers who have small land and livestock resources work in MGNREGA works. So employment scheme of MGNREGA is providing livelihood security to the resource- poor rural people. Thus, if size of holding is large, the chances to work in MGNREGA work are less. It can be inferred that in agriculturally-developed area MGNREGA did not check the migration as the people were earning more income from migration. It implies that for the backward and resource-poor areas, MGNREGA is a good source of employment. The study has concluded that the farmers

having large size of holding, more number of livestock, are migrating to other places for employment and have taken loans are less inclined to participate in MGNREGA.

Mitra and Murayama (2008) found that Migration rates defined in terms of the gross decadal inflow of population as a percentage of total population at the place of destination does not seem to be high in a large number of districts. The intra-state rates are substantially larger than the inter-state rates. Secondly, the male and female migration rates are closely inter-connected irrespective of whether they migrate from the rural areas within the state or outside the state. This would suggest that women usually migrate as accompanists of the male. Though many of the relatively poor and backward states actually show large population mobility, which is primarily in search of a livelihood, the mobility of especially male population is also seen to be prominent in the relatively advanced states like Maharashtra and Gujarat. The effect of factors at the place of destination on migration is interesting. Prospects for better job opportunities are a major determinant of migration.

Bhagat (2009) is of the view that the push and pull factors have dominated much of the understanding of migration. Push factors like low income, low literacy, dependence on agriculture and high poverty are cited as some examples associated with place of origin. On the other hand, high income, high literacy, dominance of industries and services, are the pull factors associated with place of destination. It has been found in this study that both in and out- migration rates have significant positive association with per capita income, percentage of workforce and share of GSDP in the non-agricultural sector. This means that higher income and sectoral transformation of economy from agricultural to non-agricultural sector is associated both with higher in-migration as well as out-migration rates. In other words, the areas which are experiencing higher in-migration are also the areas characterised with high out-migration rates. On the other hand, poverty is not found related with increased out-migration at the state level. Neither per capita monthly expenditure nor social categories of households indicates that migrants largely come from disadvantaged sections of Indian society. It appears that push factors are not effective in influencing migration as it is generally believed. On the other hand, increased mobility of India's population after liberalization of the economy in 1991 is confined to relatively better off sections that can better fit into the emerging areas of job opportunities.

Jacob (2008) recommends that the lack of exact official data on migration is a matter that should be corrected as it is quite important to quantify migration as accurately as possible as rural-urban migration can become quite a problem for both the source and the destination areas. The aspect of NREGA where it can be used to curb rural-urban migration is conditional on the NREGA being implemented well in that region, otherwise, if work is not supplied, if wages aren't paid on time and if money is just being siphoned off, then workers will have no incentive to stop migrating. However it should be clear that the primary aim of the Act is to provide welfare for the section of the population that does not even earn the minimum wage- the fact that it can also curb distress migration is just a positive secondary impact of the Act. This paper does not mean to suggest that the focus of the Act should shift to preventing rural-urban migration, it only seeks to highlight that it should become a priority to implement NREGA as efficiently as possible because there are enormous secondary benefits from the Act which could really have a positive impact on economic development.

Bhagat (2012) thinks that temporary and seasonal migration has long been an important income diversification and risk-coping strategy in many agriculture based economies in the developing world. In places where access to non-agricultural employment is limited, or climate (or technology) prevents continuous cultivation, seasonal migration is often the key to a household's income during the agricultural lean season. Regional variations in temporary migration are noteworthy in a country. Bihar, Jharkhand, Gujarat, Madhya Pradesh, West Bengal and Nagaland have a very high intensity of migration. All these states either have a high level of intra-state inequality or a high proportion of STs and SCs. Overall, temporary and seasonal migration declines with better economic and educational status. In rural areas, those with increasing incomes become less prone to migrate temporarily. Social factors play a critical role in migration decisions. Those belonging to STs have a higher chance of migrating seasonally than people in any other social group. The study concludes that temporary mobility is higher among the poorer sections of Indian society irrespective of the level of economic development of the states concerned.

Mahapatro, in her paper "The Changing Pattern of Internal Migration in India Issues and Challenges" depicts a gloomy picture of recent migrants with a decline in male migration, increasing interstate mobility among male in urban area, steady increase of urban migrants in lower economic class and decline in labour force participation especially among females. Male migration especially in rural area shows a declining trend. The decline in male migration also expected to be the outcome of successful implementation of NREGA or may be due to increasing seasonal migration which is not fully captured in the data. It is expected that short term employment opportunities created under NREGA in rural area reduces seasonal and distress related migration but it has not able to reduce rural to urban flow. The growing regional inequalities and ecological forces bring significant increase in interstate migration among male. India is likely to experience rapid urban growth and concentration of people in urban areas will be rapidly increasing. It is expected that urban population will increase to about 40 % of total population by 2021(Ministry of Urban Unemployment and Poverty Alleviation and Ministry of urban Development, Government of India, 2005). The share of migration to urban area increases from 33 % in 1999/00 to 35 % in 2007/08. Given the current development and growth of urbanization it is likely that migration to urban areas will accentuate more in future.

Jaswal (2009) finds out that migration has reduced by more than half since MGNREGA was introduced. This has allowed families better access to educational and medical facilities in their existing domiciles. Most of the NREGS workers surveyed had little or no land. Many of the ones that do have land did not have access to irrigation and hence the productivity of the land is low. In such circumstances, the importance of migratory labour or an alternative such as NREGS goes up. An important aspect is the effect of NREGS on the labour market. It has buoyed up the off-season wages and has been instrumental in allowing the rural workforce to obtain means for basic sustenance in their local areas without having to migrate. In terms of number of people who have migrated before and after NREGS, it was found that there has been a drastic fall in the number of migrants.

Solinski (2012) suggests that NREGA may benefit Scheduled Castes and Scheduled Tribes and those with little or no access to positive migration opportunities – in other words, it may be a good way to curb *distress* migration, which is commendable. However, it is unlikely to succeed in reducing mobility for work in general – which is not desirable anyway. The programme's attempt to reduce labour mobility by providing unskilled, socially unrewarding work in rural areas stems from its misconception of migration for work as merely a product of 'push-and-pull' economic factors, and its failure – like many other 'development' programmes – to recognise the poor's 'capacity to aspire'. This incapacity – or refusal? – to acknowledge the 'rural' poor's inspirational horizons leaves one to doubt that the much-hyped NREGA really is the radical legislation it is often portrayed as in India.

Vatta, Grover and Grover (2011) in their study of NREGA in Punjab find out that there was no major impact of NREGA on migration of rural workers in rural areas of Punjab. Only 4.5 per cent of the households reported any migration from the village due to lack of employment opportunities and there was no incidence reported for anyone to come back. While 33 per cent of those migrated during the recent year, 67 per cent of the migration occurred during the previous years. It was informally observed that many rural workers were commuting to the nearby towns and cities in search of work but were not permanently migrated. It may be due to better road network in the state, making it easy and cheap to commute to these places rather than migrating there permanently. Comparatively very high cost of living in the urban areas was also a big hindrance for such migration. The workers were commuting in the lean periods to find employment in cities, mainly in the construction activities. The rural households do not believe that there will be any reverse migration in the short-run due to employment effect of NREGA.

Singh, Yadav and Smarandache in their paper "Rural Migration: A Significant Cause Of Urbanization: A District Level Review Of Census Data For Rajasthan" said that Migration witnesses a better urbanization rate and there are more districts classified in higher range of urbanization rates than the number of district classified according to total urbanization rate of the districts. At state level, the rising contribution of rural migrants in urbanization is witnessed in three successive decades. Scale of the urbanization for some of the district that are already having higher urbanization due to rural migrants is speeding up and these district have grown tremendously due to high rate of rural migrants settling in urban areas. This in turn is resulting in big is getting bigger in recent census (2001) over previous censuses and the gap in urbanization due to rural migrants is increasing for the district that already had high urbanization from rural migrants than to districts which had small rural migrants settling in urban area.

Lusome and Bhagat (2006) state that Short distance migration, largely that of women, has been the predominant migration pattern in India. The traditional village exogamy could be the reason for this type of large migration among females. There has been a significant increase in migration to urban areas both among males and females during 1991-2001. Going by this trend, long distance rural to urban and urban to urban streams are likely to emerge as the dominant migration streams in future. The reasons of migration data reveals that apart from employment among males and marriage among females, moved with household emerged as

another important factor for migration among males as well as females. It is also evident that urban to rural streams show an increased migration on account of employment or work as a reason of migration. As such, two–third of urban to rural interstate male migrants has moved owing to employment or work.

Hence, in our literature review and some other articles discussed in this report, we find that a number of problems and issues have been discussed by authors assessing the scheme. There have also been success stories and interesting new practices that can be used as benchmarks and adopted across the country. On the whole, the authors are very positive about the potential of the scheme and see it as a means to revolutionize the way rural India lives and works.

5.5 Statistical analysis

Data

The present study utilises state level data from the 64th (2007-2008) round of the NSS, which is a large-scale, nationally representative, multi-round survey (NSSO 2010). In this round, information on various facets of migration was collected through a schedule on "Employment and Unemployment and Migration Particulars" (Schedule 10.2). Also to check its pattern across MGNREGA NSS 55th round (1999-2000) state level out migration data will be will be used. In these rounds of the NSS, voluminous data on out-migration movements was collected. According to NSSO "Any former member of a household who left the household, any time in the past, for stay outside the village/ town was considered as out-migrant provided he/ she was alive on the date of survey".

The usual place of residence was defined in the NSS as a place (village or town) where a person has stayed continuously for six months or more. If a household member's last usual place of residence, anytime in the past, was different from the place of enumeration, he or she was considered a migrant. The NSS used a stratified multistage sampling design and appropriate multipliers and weights have been used to generate national and state-level estimates. Details of the multipliers and sampling weights used are in the NSS report pertaining to migration (NSSO 2010).

Analytical Strategy and Cataloguing of Variables

The statistical analysis will be divided in two parts in first part correlation between out migrants and NREGA intensity will be drawn to study MGNREGA's impact on out migration. In second part regression will be done on out migrants per thousand populations of 1999-2000 and 2007-2008.

The rate of out-migration was calculated to study the pattern of migration after commencement of MGNREGA, for this MGNREGA intensity is required which is calculated using two different variables. Firstly by dividing MGNREGA expenses by rural population and secondly by dividing MGNREGA expenses by Net shown area. In this part 2007-08 data for migration and NREGA expenditure will be used to study relationship between them.

Secondly, to study pattern of migration with other competing factors a pooled multiple regression will be used. For this our dependent variable will be out-migrants per thousand populations from both 55^{th} and 64^{th} NSS round. Independent variables are decided using literature review. Variables are described in the table below:

Table 1: Description of all the dependent and independent variables used.

Variable	Variable Description	Unit	Mean
Dependent variable			
MIG	Out migrants	per 1000 population	27
Independent variable			
X_1	Wage rates Unskilled (Male)	In Rs	19
X_2	Growth rate of Construction GSDP	Constant Price 1999-00	7
X_3	Cropping Intensity	In percent	142
X_4	Irrigation intensity	In percent	134
X_5	Literacy Rate	In percent	69
X_6	population below poverty line	In percent	26
X_7	Growth rate of Urban Population	RATE	3
X_8	Rural unemployment rate	per 1000	26

Now the question arises as to why select these variables? Wage rate is taken as a dependent variable because out-migration is directly related to wage rates it has been seen that region with low wage rates has high migration rate. As Jaswal (2009) has said in his research paper "NREGS has an important role on the labour market. It has buoyed up the off-season wages and has been instrumental in allowing the rural workforce to obtain means for basic sustenance in their local areas without having to migrate". Growth rate of Construction GSDP is also important factor which leads to migration as stated by Vatta, Grover and Grover (2011) "The workers were commuting in the lean periods to find employment in cities, mainly in the construction activities." Irrigation intensity and cropping intensity are also very important variables as it also affects farmer decision to migrate as said by jaswal (2009) "Most of the NREGS workers surveyed had little or no land. Many of the ones that do have land did not have access to irrigation and hence the productivity of the land is low."

Education and poverty are also said to be major push and factors which ultimately leads to migration. Urbanization is the outcome of increase in migration, as said by Singh, Yadav and Smarandache "Scale of the urbanization is speeding up due to high rate of rural migrants settling in urban areas." As said by **Mitra and Murayama (2008) "**Prospects for better job

opportunities are a major determinant of migration" so to study affect of employment on migration it's important that to study migration in relation with rate of unemployment.

For multiple pooled regressions following equation will be used:

Regression with pooled data

$y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + b_8x_8$

Where,

Y = Dependent variable (out migration per thousand)

x_1 , x_2 , x_3 , x_4 , x_5 , x_6 , x_7 , x_8 = Independent variable

a = Intercept

b_1 , b_2 , b_3 , b_4 , b_5 , b_6 , b_7 , b_8 = Slopes for the Independent variable

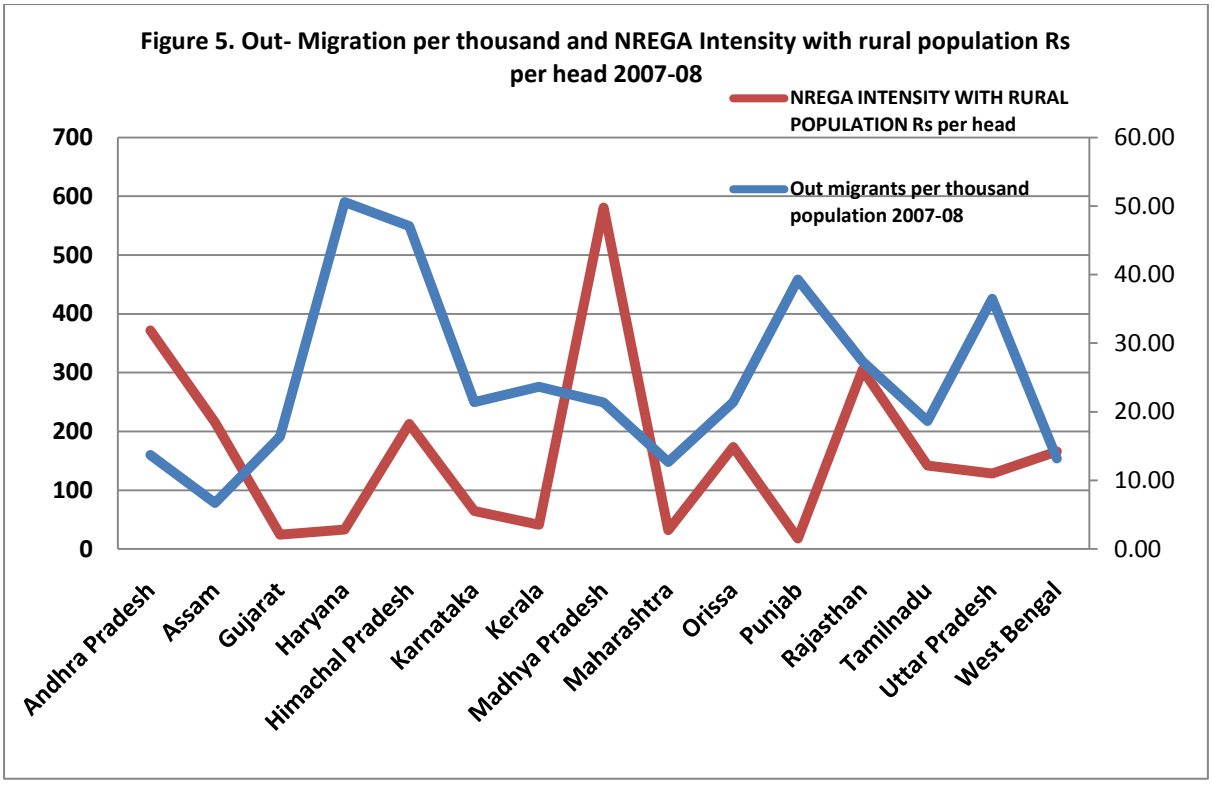
To run regression we will use Panel method with cross section weights to check the hetro-scarcity in data for different states. Data for only 15 major states will be taken due to lack of data.

6. Results and discussions

6.1 Graphical interpretation

For first part of results and discussions out-migration data of 15 major states from NSSO 64th is taken. In this with the help of graph and correlation, it can be seen that what the relationship between MGNREGA and out-migration is. For this first NREGA intensity with rural population and out-migration data is taken. Both these data are for 2007-08 because last available data for migration is for 2007-08.

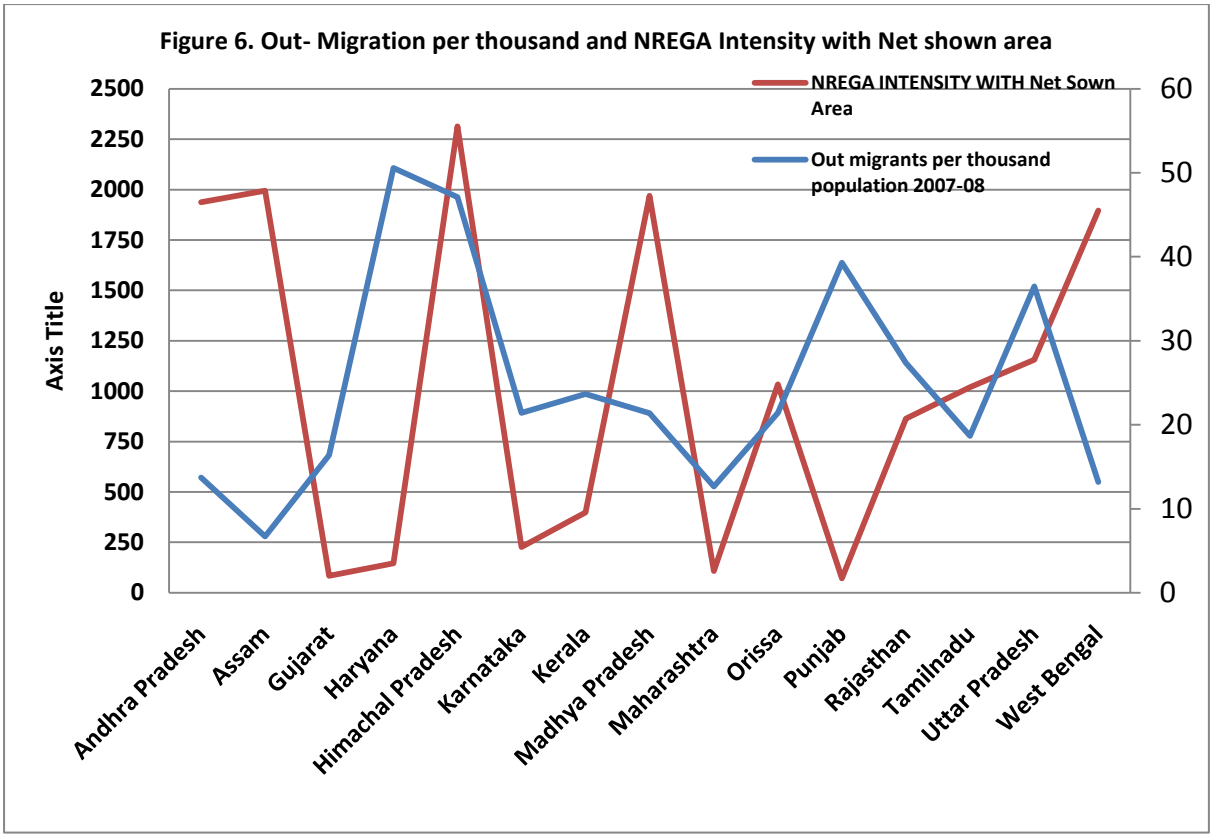
Out- Migration per thousand and NREGA Intensity with rural population Rs per head 2007-08



From the fig 5 it can be seen that there is a very weak correlation between NREGA intensity with rural population and out-migrants per thousand, r = -0.20 which shows that they are negatively correlated, which means that with a percentage increase in NREGA intensity with rural population, out-migration decreases. This weak correlation may be because NREGA was fully adopted by 2008-09 and the data here is for 2007-08 when it was only partly adopted. From this it can be said that though out-migration is increasing but still NREGA is helping to keep a check on it.

From fig 6 it can be seen that there is again a very weak relationship between NREGA intensity with net shown area and out-migration per thousand, r = -0.17 which means that with a percentage increase in NREGA intensity with net shown out-migration increases. Again we can suppose that this weak correlation is because of only partly adoption of NREGA in 2007-08.

Out- Migration per thousand and NREGA Intensity with Net shown area



Thus from the graphical interpretation we can conclude that there is a negative and weak correlation between NREGA intensity (both cases) and out migration per thousand of population. But in this research what is important is there negative relationship which also supports the objective of the research paper.

6.2 Regression Analysis

Regression is done to study the trend and pattern of dependent and independent variable. In this paper panel data is used because:

- They are more informative (more variability, less collinearity, more degrees of Freedom), estimates are more efficient.
- They allow studying individual dynamics (e.g. separating age and cohort effects).
- They give information on the time-ordering of events.
- They allow controlling for individual unobserved heterogeneity.

Since unobserved heterogeneity is the problem of non-experimental research, the latter benefit is especially useful.

Also in this paper cross section is used. Time-series{cross-section (TSCS) data are characterized by having repeated observations over time on some set of units, such as states or nations. TSCS data typically display both contemporaneous correlation across units and unit level heteroskedasity making inference from standard errors produced by ordinary least squares incorrect. Panel-corrected standard errors (PCSE) account for these deviations from spherical errors and allow for better inference from linear models estimated from TSCS data

(Bailey and Katz, 2011).Since data is for two years panel data was the best possible solution. The regression results are presented in the table below:

Table 2: Regression table

Variable	Coefficient	T-Statistic	Probability
Constant	-19.56	-0.77	0.45
BPL	0.06	0.33	0.74
Irrigation Intensity	-0.04	-0.75	0.46
LIT rate (%))	-0.12	-0.42	0.68
Rural Unemployment	-0.44	-3.94	0.001
Growth rate of urban population	-0.72	-1.67	0.11
Cropping Intensity	0.32	3.18	0.005
Wage rates of unskilled agriculture Male	1.75	4.82	0.002
Construction GSDP Growth rate	-0.06	-0.46	0.65
YEAR_DUMMY	-3.48	-0.93	0.37

Here it is important to keep in mind that the objective is not to get significant results but to learn the working of regression model so that it can be used in future for further research when 2011 data processed data is available. Due to lack of data the results are not significant.

Firstly we see that in case of case of percentage of population below poverty line though the results are not significant, signs are according to our findings which show that as percentage of population below poverty increases, migration also increases. Similarly in case of irrigation intensity though the results may not be significant but the signs are according to our findings. This shows that as irrigation intensity decreases out-migration increases. The only significant result is that of cropping intensity and Wage rates of unskilled agriculture male but there relation to out-migration is opposite to that our analysis. According to regression model as cropping intensity and wage rates of unskilled male increases out-migration also increases which is very unlikely to happen and also does not support to our findings from literature review. To check this further analysis is required with good data base. The results from year dummy is also not significant which shows that out-migration has decreased from

1999-2000 to 2007-2008 which is not possible as from our previous analysis it can be seen that migration rate is increasing at a diminishing rate

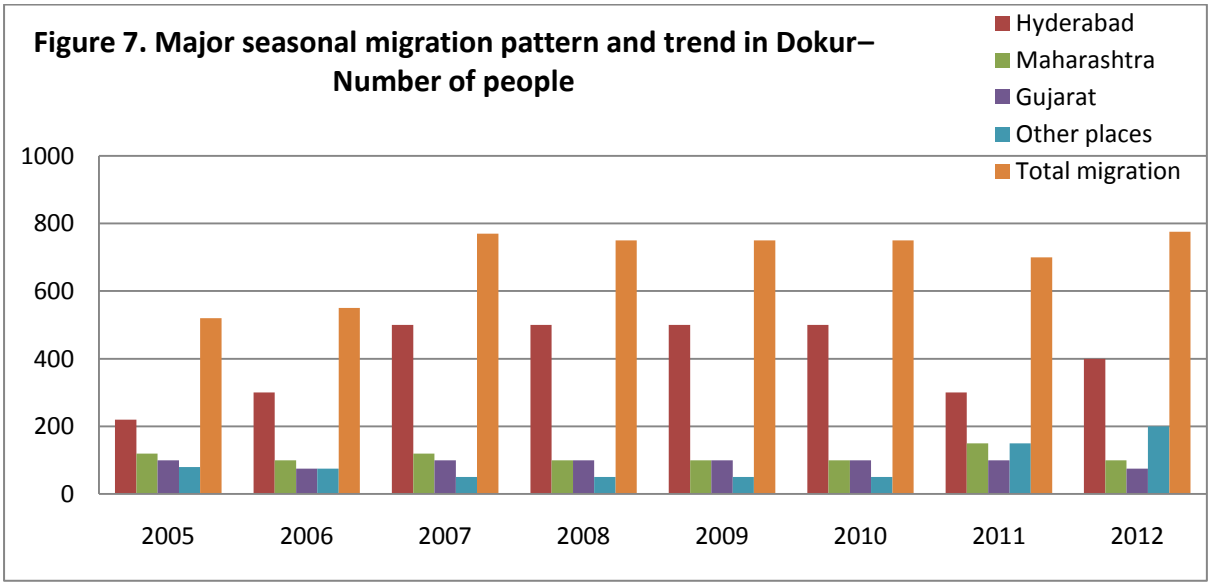
6.3 Migration and NREGA in Dokur: a rapid consultation

Dokur is a small village in Mahbubnagar district of Andhra Pradesh with population of almost 4500 people which consists of 600 households. Agriculture is the main traditional livelihood in this village. According to the focus group discussion conducted on 26th June 2013 it was found that seasonal migration in Dokur is very high almost in 50% household at least one member has migrated. People have mostly migrated in search of better employment opportunities. Also on discussion with the villagers it was found that NREGA wages are being paid almost after 3 months. People have mostly migrated to Hyderabad, Mumbai, Bangalore, Pune and Goa in search of better employment opportunities. It was also found that 6 people of this village have also migrated to Dubai. People also migrate due to low wages under NREGA. It was informed that Wages under NREGA are Rs120 whereas if they go to work on construction site in Hyderabad they get 200 Rs for female workers and 300 Rs for male Workers. It was found that NREGA only provides seasonal employment and therefore for rest of the season people migrate. Thus it can be said that NREGA is not helping to reduce migration in this village. It was found that only female and old males work under NREGA and young workers migrate to earn good wages. It was reported that number of persons under NREGA has fallen from 400 people previous year to 300 this year. People use money earned under NREGA for consumption purposes. It was summoned that if there will

be no NREGA people will either sit at home or migrate.

Table 3: Major seasonal migration pattern and trend in Dokur – Number of people

Year	Hyderabad	Maharashtra	Gujarat	Other places	Total migration
2005	220	120	100	80	520
2006	300	100	75	75	550
2007	500	120	100	50	770
2008	500	100	100	50	750
2009	500	100	100	50	750
2010	500	100	100	50	750
2011	300	150	100	150	700
2012	400	100	75	200	775



From the table and the graph it can be summoned that migration to Hyderabad has fallen after 2010 but has started rising again in 2012. In case of Maharashtra also the same trend is seen. Migration to Gujarat has shown a steady increasing trend until 2011 but has started to fall after 2011. Other places show an increasing trend from 2005 to 2012. But total migration shows an increasing trend.

Thus from this we can conclude that on micro picture though NREGA is providing employment to villagers but it has helped little in reducing migration.

5. Conclusion

Thus from literature review, statistical Analysis, and site visit, we can conclude that

1. Migration is a complex process, it is done not always due to poverty and desperate situation, but complex factors (facilities, education..)

2. People are migrating due to lack of adequate agricultural land, inadequate agricultural production, less irrigation facility, and acute water scarcity (in Dokur).

3. In principal, NREGA can help to reduce temporary migration but is ineffective in long period, when several factors would change together.

4. At the meso level analysis, correlation between MGNREGA and Migration is very weak (0.17).

5. From the literature as well as supported by the micro-assessment, MGNREGA is helping poor and weaker section of the community by providing employment at critical period of a year (seasonal migration).

8. Asset creation under NREGA

8.1 Introduction

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. Over the last few years there has been an increased demand from States to include new works which would create an even stronger positive synergy between MGNREGA and agriculture and allied rural livelihoods. In response to the demand, the provision in Schedule I has been amended vide. Notification dated 4th May, 2012 to include additional works that can be taken up under MGNREGA. The amended Schedule I provides that the focus of the scheme shall be on the following works;

(i) Water conservation and water harvesting including contour trenches, contour bunds, boulder checks, gabion structures, underground dykes, earthen dams, stop dams and spring shed development;

(ii) Drought proofing including afforestation and tree plantation;

(iii) Irrigation canals including micro and minor irrigation works;

(iv) Provision of irrigation facility, dug out farm pond, horticulture, plantation, farm bonding and land development;

(v) Renovation of traditional water bodies including desalting of tanks;

(vi) Land development;

(vii) 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;

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

(ix) Construction of Bharat Nirman Rajiv Gandhi Sewa Kendra as Knowledge Resource Centre at the Block level and as Gram Panchayat Bhawan at the Gram Panchayat level;

(x) Agriculture related works, such as, NADEP composting, vermi-composting, liquid bio-manures;

(xi) Livestock related works, such as, poultry shelter, goat shelter, construction of pucca floor, urine tank and fodder trough for cattle, azolla as cattle-feed supplement;

(xii) Fisheries related works, such as, fisheries in seasonal water bodies on public land;

(xiii) Works in coastal areas, such as, fish drying yards, belt vegetation;

(xiv) Rural drinking water related works, such as, soak pits, recharge pits;

(xv) Rural sanitation related works, such as, individual household latrines, school toilet units, anganwadi toilets, solid and liquid waste management;

((xv(a))Construction of Anganwadi centres

((xv (b))Construction of play fields.

(xvi) Any other work which may be notified by the Central Government in consultation with the State Government.

According to CAG report of 2013 "the act and operational guidelines prescribe a number of conditions for the works to be taken up"

- The ratio of wage to material costs should not be less than 60:40
- The list of priority wise permissible works which can be taken up under MGNREGA should be as indicated in the act.
- Use of contractors and machinery are not allowed.
- Allotment of at least 50% of the works to GPs for execution and
- Administrative technical sanction for all works to be obtained in advance, by December of the previous year.

According to MGNREGA- Report to people 2013, Total work taken up has increased almost ten times since its interception in 2006-07. In 2006-07 total work taken up was 8.35 (in lakhs) which have reached to 70.50 (in lakhs) in 2012-13 (reported till 31-12-2012)*.

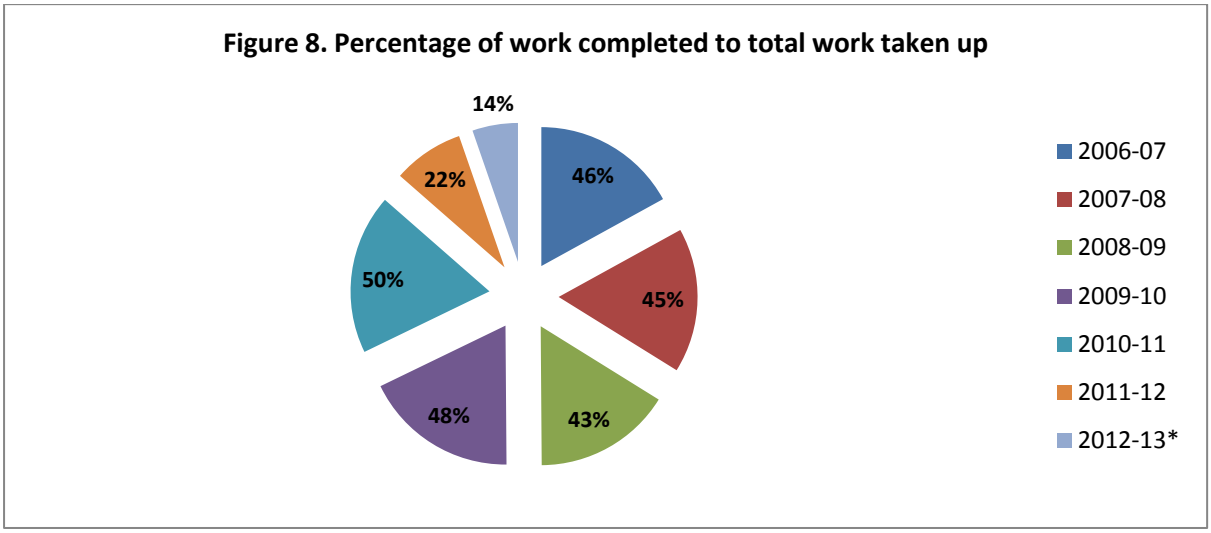
Table 4: Total work taken up and completed under MGNREGA

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13*
Total work taken up (in lakhs)	8.35	17.88	27.75	46.17	50.99	82.51	70.50

Works completed	3.87	8.22	12.14	22.59	25.90	18.56	10.21
Total work completed (percentage of work completed to total work taken up)	46.35	45.97	43.75	48.93	50.79	22.49	14.48

Note* 2012-13 data is reported till 31-12-2012 only.

Source: MGNREGA- Report to people 2013



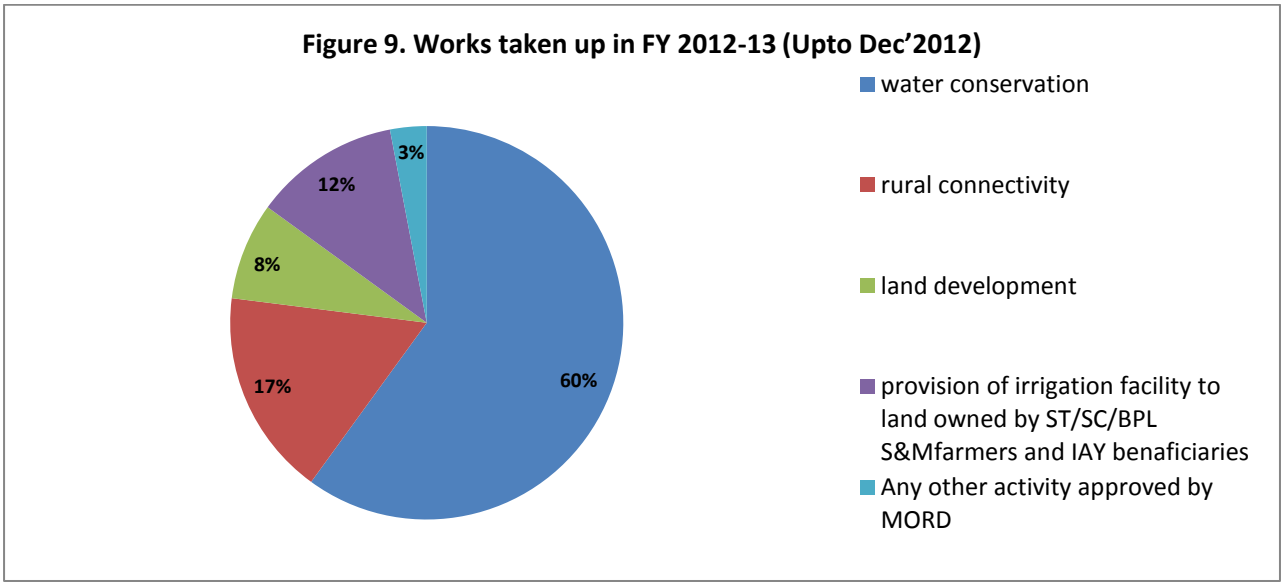
Source: MGNREGA- Report to people 2013

From the pie chart and table it's clear that total work completion percentage has fallen since 2006-07 to 2008-09 but it should also be kept in mind that MGNREGA started in three phases and came to full existence from 2008-09 only. After 2008-09 there has been a growth in percentage of work completed.

The works undertaken through MGNREGA give priority to activity related to water harvesting groundwater recharge, drought-proofing, and flood protection. Its focus on eco restoration and sustainable livelihoods will lead over time, to an increase in land productivity and aid the workers in moving from wage employment to sustainable employment. Almost 53% works relate to soil and water conservation. Mahatma Gandhi NREGA works focus on regenerating the rural ecosystem and creating rural infrastructure that supports sustainable livelihoods.

In 2012-13 (up to Dec'12) Around 71 lakh works were undertaken (including new works as well as spill-over works from the previous FY), of which 60% relate to water conservation, 12% for the provision of irrigation facility to land owned by SC/ST/BPL, IAY beneficiaries, small farmers or marginal farmers as defined in the Agriculture Debt waiver & debt relief

schemes or beneficiaries under the Scheduled Tribes & other traditional forest dwellers (recognition of forest right) Act 2006, 17% rural connectivity and 8% for land development as shown in the pie chart below:



Source: MGNREGA- Report to people 2013

8.2 Literature review

A number of studies have gone into examining the aspect of asset creation under the various wage employment scheme. The two most important observation emerging from the studies are: (I) low employment intensity of the work while creating the assets; and (ii) low quality as well as durability, especially of the productive assets, which pertain mainly to land and water resources development (Papola, 2005; Hirway and Terhal, 1994; Government of India, 2006). Lack of planning, involvement of labour contractors and use of machinery have often been found to be the most common factors leading to what appeared to be poor outcomes with respect to asset creation.

Shah and joe, 2009 presented a synoptic view of the problems faced with respect to asset creation and the corrective measures within the NREG-Act for overcoming the limitations. The discussion in the initial part of the paper highlighted the specific corrective measures under taken in the design of the NREGS, which potentially may help overcome some of the widely prevalent limitations of asset creation under the earlier employment generation programmes, especially, the Maharashtra Employment Guarantee Scheme. For this she presented a table which is shown below:

Table: Limitations and Corrective Measures

SN	Major Limitations in Asset-Creation under Wage Employment Programmes	Corrective Mechanisms under NREGS
1	Predominance of Road and other Physical Infrastructures.	Focus on Land and Water Resources Development with Prescribed Priorities under Schedule I.
2	Lack of Planning for Creating Productive Assets Focusing on Land water Resources.	Multi-layer Planning at Village, Block and Districts; Use of Information Technology in Planning; Provision of Technical Support Team.
3	Involvement of Contractors, Machinery and Neglect of Direct Labour Employment.	Use of Ban on Contractors; Involvement of NGOs besides Village Panchayats in Project Implementation.
4	Absence of Institutional Mechanism for Future Management of Assets.	Provision for Forming Local Institutions like Self-help Groups, User Groups; Special Emphasis on Social Auditing and Capacity Building Awareness Generation.
5	Relative Isolation from Developmental Programmes.	Emphasis on Convergence with other Programmes.

The analysis brought to the fore some of the important evidences from the experiences of watershed projects in different parts of the country. The evidence highlighted certain critical features such as:

i) employment gain is confined mainly to direct on-site work;
ii) whereas overall benefit-cost ratio for watershed projects is fairly moderate (around 1.7), the major economic benefits emanate from various water harvesting structures, which in turn may have limited coverage of beneficiaries;
iii) physical structures, especially small check dams, created under WDPs tend to get damaged in absence of institutional mechanisms for maintenance; and

iv) Overall benefits from WDPs appear to be low or medium and that the benefits tend to decline over time. This may imply that much of the impact on productivity, employment and capital formation, by and large, may remain confined to direct/first round effects. Sustaining the impact may however, necessitate institution building and strengthening of the local governance.

MGNREGA sameeksha for (2006-2012) stated that Overall, studies suggest that while many productive assets have been created on the ground owing to good planning and execution at the micro-level, there is need for more focussed implementation with regard to the creation of durable and sustainable assets under MGNREGA. When planned and executed well, studies Indicate a positive Return on Investment for MGNREGA assets; a study observed a Return on Investment of over 100 per cent in a single year of use. On the other hand, some studies highlight design-specific and technical quality issues which undermine the potential of these works. That said, there are only a few studies that have conducted rigorous scientific analysis on the actual productive performance of these assets. Further, the quality and durability of the assets vary vastly with district/region and cannot easily be generalised at the national level. MGNREGA has faced criticism on the quality and sustainability of the assets created under it. Critics of the Scheme argue that since employment generation is the primary objective of the Act, the works undertaken are labour-intensive, these works tend to be non-durable and have limited use. On the other hand, other scholars suggest that earthen can also be durable if planned, designed and constructed properly.

In CAG report of 2013 it was found that 9,220 works in 256 GPs, 15 blocks and 13 districts had been abandoned in 10 states and one UT of Assam, Chhattisgarh, Goa, Jammu & Kashmir, Jharkhand, Kerala, Maharashtra, Odisha, Punjab, Uttar Pradesh and Lakshadweep. The expenditure of Rs 209.57 crore incurred on these works had become unfruitful. The reason for abandonment were public obstruction, inundation of executed part, land dispute, absence of forest clearance, etc. this indicate that these works were taken up without planning. Works initiated were to be completed in a timely manner so as to ensure that meaningful benefits were received by the local community. However, it was seen that 7,69,575 works amounting to Rs 4070.76 crore in 403 GPs, 27 blocks and 20 districts in the 12 states and one UT of Andhra Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Jharkhand, Karnataka, Manipur, Odisha, Rajasthan, Tripura, Uttar Pradesh and puducherry and by three line departments in Bihar were incomplete even after one to five year. Undue delay in completion of works rendered the expenditure unfruitful.

Census of MGNREGS works: in Deogarh district of Odisha (2010) it was found that out of 2461 no. of works sanctioned during the three years period from 2006 to 2009, as many as 348 no. of works are found abandoned – 15 incomplete abandoned and 333 abandoned without any initiation of the work. Of the 2128 works undertaken for execution, the highest 952 no. of works come under the main work category of Rural Connectivity followed by 721 no. of works under Water Conservation and Water Harvesting , 237 no. of works under the

work category of Irrigation Canals and 178 no. of works under Construction / Renovation of Tradition Water Bodies. The period for work completion is averaged at 230 days. Work category wise, the work under Water Conservation and Water Treatment takes the highest 336 days for completion. Over 42% of the completed works in the District are found having discrepancies in measurement between approved plan and measurement books. They also recommended that there is a weak theoretical framework underlying the planning for infrastructure and natural resources in the District. Works recommended by the people at the village Panchayat generally do not have macro context. The Palli Sabha and Gram Sabha need to be capacitated to select works keeping in mind the long-term needs for development of the region. Gram Sabhas should be held every year for identification and recommendations of works. The planning process at the grass root level should be activated with proper facilitation.

Ambasta, Shankar, Shah (2008) found that the quality of works undertaken was uniformly reported to be poor. In Rajnandgaon, the emphasis is more on spending a larger amount of money than on ensuring quality in works execution. In Sarguja, shortage of technical staff is reported as adversely impacting quality. Also poor and thoughtless implementation strategies result in low quality work – planting is done but no provision is made for watering, nor is any protection (mechanical or human) planned against grazing. The plantations are thus destroyed fast. In Jashpur and Raigarh districts, the poor quality of works is widely reported, particularly given the paucity of technical manpower resources at the disposal of NREGA projects. In Gujarat, the rates of work are an issue, due to which quality of work is adversely affected. In Madhya Pradesh, in Shivpuri, it is reported that quality of works is very poor. Farm banding has been initiated without any proper technical planning because of which the quality of work is shoddy. In Tikamgarh, plants have already died because no arrangement was made for water. The condition of roads is variable and only a few may survive.

Tiwari, Somashekhar, Parama, Murthy, Kumar, Kumar, Parate, Varma, Malaviya, Rao, Sengupta, Kattumuri and Ravindranath (2011) found that the activities undertaken under the Mahatma Gandhi National Rural Employment Guarantee Act in Chitradurga district, Karnataka, were assessed for their potential to enhance and provide environmental services. Key programmes implemented in 20 villages during 2009 were studied using rapid scientific assessment methods. An indicator approach was adopted to analyse environmental services such as water for irrigation and improvement in soil quality. The status of environmental services before and after implementation of the activities was examined and vulnerability indices were constructed and compared. The activities were found to have reduced the vulnerability of agricultural production, water resources and livelihoods to uncertain rainfall, water scarcity and poor soil fertility.

Kelkar, (2009) found that generally, women lack any productive assets other than their own labour. Often they do not even possess a homestead within which they could raise livestock or set up a shop to meet daily food requirement. There is thus the need to inform and assist public policy to institute implementation of programmes for a gender responsive political economy, with adequate measures for building women's ownership and control rights to productive assets. Needless to say such measures are compatible with development needs of

the country. That equal rights to productive assets of women with those of men, can lead to greater economic activity, change in the perception of dependence on men, and thus result in substantially reducing exclusion of women from social processes and promote development of diverse capabilities, thereby enhancing productivity and reducing inequality.

Aggarwal, Gupta, Kumar (2012) in their research on wells of Jharkhand found that completed NREGA wells are clearly useful assets for not only their owners, but also for others who use their water, free of cost. Apart from paddy which used to be the primary crop grown earlier in the command areas, the wells have enabled the cultivation of wheat, vegetables and other crops. The value (net of input costs) of many of these crops grown is higher than that of crops grown earlier, leading to substantial fi nancial gains. The diversifi cation of crops has also improved the diets of the well owners' families (and probably also those of other farmers growing crops in the command area). The wells are also a valuable source of water for drinking, bathing, washing, etc. It can be safely concluded that the criticism of poor quality of NREGA assets does not apply to most of the wells surveyed in this study. This positive finding is particularly significant considering that Jharkhand has had one of the worst records of NREGA implementation (compared with other states) in recent years: the completion of most NREGA wells, if it happens, will be Jharkhand's first major achievement in this respect.

8.3 Conclusion

Thus from literature review it can be concluded that the two most important observation emerging from the studies are: (I) low employment intensity of the work while creating the assets; and (ii) low quality as well as durability, especially of the productive assets, which pertain mainly to land and water resources development (Papola, 2005; Hirway and Terhal, 1994; Government of India, 2006). Lack of planning, involvement of labour contractors and use of machinery have often been found to be the most common factors leading to what appeared to be poor outcomes with respect to asset creation. The land owning class thus became direct beneficiaries and important stake holders in the process of creation of such assets. Presence of social movements also helped keeping the contractors away. The outcome, therefore, turned out to be more effective (Patel, 2006). a recent study of nearly 1000 micro watershed projects, constituting five percent of completed projects in Madhya Pradesh, Maharashtra, and Karnataka revealed that a majority of the physical assets like water harvesting structures, contour trenches, village tanks, farm ponds, and pasture lands were not in 'good condition'. It was also noted that limited efforts were made to take care of repair/maintenance/post-project management of such assets

Prima facie, there could be two sets of responses: (i) to treat this as a hard reality and make provision for recurring investment for repair and maintenance year by year where the works under NREGS could serve as supplementary investment as noted above; (ii) to evolve mechanisms within NREGS whereby local institutions could be strengthened.

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