

# Analysing Impact of NREGA in the Keynesian Theoretical Framework

<sup>1</sup>Dr. Jayanta Hajra, <sup>2</sup>Sri Chandrasekhar Hajra

<sup>1</sup>Associate Professor, Dept. Of Economics, J.K. College, Purulia

<sup>2</sup>Assistant Professor, Dept. Of Economics, Nistarini College, Purulia

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**Abstract:** Rural Indian economy is characterized by demand constrained as well as supply constrained economy. Modern jobless growth of Indian economy is accentuating further problems of our rural economy. In this situation NREGA works were expected to take care of both the sides together. But arbitrariness in selection of total number of work days related with social capital formation, independent of the level of skill formation in the economy, availability of technological inputs will ultimately lead to the suboptimal situation.

**Keywords:** Demand Constrained, Supply Constrained, Multiplier Effect, Scale Effect, Exogenous Variable, Endogenous variable, Local Optimum, Global Optimum.

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## 1. INTRODUCTION

The main concern of this research paper is to analyse impact of NREGA on rural agrarian economy with or without social capital. In the process an attempt has been made to find out optimum level of NREGA works given other resources in a typical rural agrarian economy with given level of social capital. This research paper consists of 5 sections.

Section 1 of the study is an introductory section which provides background that led to passing of the ACT by Indian parliament. It also describes the Act and other related issues. Section 2 provides review of literature and the gaps in the literature which this study has undertaken to cover. Section 3 describes the objectives of the study and methodology. Assessment of NREGA on rural economy is detailed in Section 4. Section 5 provides conclusions and recommendations.

## 2. BACKGROUND TO THE ACT

Indian economy even today is characterized as an agrarian economy with an overwhelming share of agricultural employment in total work force. Overtime, despite a continuous reduction in the share of agricultural output in GDP, its share in employment remained stagnant for a considerable period of time only to start falling after 1990. Today, it stands at about 53% with manufacturing and construction and services sector contributing 19.3% and 27.8% [NSSO 2013]. Worse yet, with small but capital intensive organised manufacturing, employment could not get expanded beyond a point. Given the near zero employment elasticity in the agriculture and rapidly rising labour force, the small increase in the employment share of the agriculture sector could not arrest the rise in the absolute number of workers implying disguised unemployment in the sector.<sup>1</sup>

Also at the same time, the growth of employment in both industry and services sectors particularly after economic reforms, did not commensurate with output growth. As a result, the sharp decline in the share of agricultural output in the

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<sup>1</sup> Rural employment during 1993-94 to 1999-2000 grew at just 0.6% per annum much below the rate of growth of rural population during the period (Chadha and Sahu 2002). Vaidyanathan (2005) finds rural unemployment especially among women having risen in the recent past. See also Papola (2005).

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GDP has contributed to the dependency of a very large number of workers on agriculture with a very low pay off. Such an evolving structure of the Indian economy has over the years, perennially afflicted it with the problem of unemployment; more severe in rural areas, more acute in the post-reform period.<sup>2</sup>

The critical and emergent nature of the twin problem of unemployment and poverty in the backdrop of the failure of the trickledown theory<sup>3</sup> called for state intervention to generate employment following Keynesian prescription through policy planning initiatives. In India, state intervention is not new. It dates back to the fifth five year plan that spelt out removal of unemployment and poverty alleviation as one of the principal objectives of economic planning<sup>4</sup>. The central focus of the model has been to generate employment, improve personal/household income through rural asset creation and demand generation to reduce poverty.<sup>5</sup>

Employment generation schemes of the earlier year was unable to take care of the failure of trickledown effect of low (3-4%) GDP growth. It was equally absent when GDP grew 6-8% in the post reform period, necessitating continuation of rural employment generation schemes. NREGA in 2005 was in fact an outcome of that process, though with a difference.

**NREG Act, 2005:**

The Act called National Rural Employment Guarantee (NREG) is a unique initiative in the history of social security that guarantees employment on local public works to anyone who applies for it. Essentially, the programme is demand driven as employment is to be provided on demand within fifteen days. More specifically, it is an active social policy that guarantees right to work and dignity of labour, decentralized planning, village autonomy, i.e. participatory and inclusive growth. The Act compliments economic reforms in an essential way. This feature of the Act has similarities with what Gandhi had visualized in his developmental plan for India in his book titled India of My Dream.<sup>6</sup>

The Act differentiates itself from the earlier anti-poverty programmes in as much as while all the earlier programmes were put in place through executive orders, NREGA originated as an Act of Parliament and as such is irreversible. It was notified on September 7, 2005 and came into force on February 2, 2006 and was implemented in a phased manner: 200 districts in 2006, 130 districts in 2007 and in the remaining districts in 2008.

**3. EXPECTED OUTCOME**

The features of this Act seen along with the permissible works when implemented will achieve its objective of transfer of income to the needy section of the society through employment generation. This will have a multiplier effect on the rural development while at the same time it will impact food security, savings, education and health of its beneficiaries. Further, the employment on public works pertaining to water and soil will help agricultural development. The work on statutory minimum wage is likely to impact the wage rate of casual workers in both agriculture and non-agricultural sectors of the rural economy – will create supply side pressure on the local wage. This is expected to break the low income equilibrium of the rural economy and move to higher income equilibrium and may shift the cropping pattern and productivity. Realization of equal wages for men and women will also have a supply side pressure on the labour market. Social audit, transparency and accountability will enrich participatory development process. Finally the entitlement basis of the Act will empower the rural women.

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<sup>2</sup> The sharp decline in rural employment in the post reform period has largely been attributed to the fall in the labour intensive growth in food crops, decline in the labour use in food crops due to mechanisation and curtailment of rural development expenditure, particularly public expenditure on irrigation (Patnaik 2005). Bhalla and Singh (2011) addressing the same issue of decline in food crop output highlights state/region specific factors but finds common cause with other studies when they find decline in public investment on irrigation and water management and absence of new technological breakthrough, having adversely affected the profitability of farmers leading to agrarian crisis of different severities in different regions of the country.

<sup>3</sup> An acronym for the mechanism of economic processes through which the benefits of growth percolate down to the lowest rungs of the social classes and groups.

<sup>4</sup> This in fact is an explicit recognition of failure of trickle down theory which was assumed since the beginning of the plan periods, community development programmes notwithstanding.

<sup>5</sup> Throughout the seventies, eighties and nineties, we experimented with special schemes for rural development such as IRDP, NREP, RLEGP and JRY, etc. to tackle the problem of unemployment and poverty through employment generation and asset creation. The launching of these schemes did produce steady increases in employment generation though the rate of growth of employment continued to somewhat lag behind that of the growth of the labour force all along.

<sup>6</sup> This possibly is the reason for renaming NREGA as MGNREGA in 2009.

#### 4. REVIEW OF LITERATURE

The review of studies carried out on the impact of NREGA on rural economy provides us the following evidence:

(1) NREGA works have shown massive expansion

(2) It has benefited NREGA workers directly through income generation effects and all rural labour through increase in agricultural wages achieved by interaction of NREGA wages with private agricultural wage and thereby magnified income generation effects of the programme.

(3) Self-selection principle has worked quite well. It has provided employment to the targeted section of rural poor population, half of them women and another half belong to SC and STs.

(4) There are also other achievements of varying degree such as creation of productive assets in rural areas and the revival of Panchayati Raj Institutions including Gram Sabhas and reduction in distress migration, but these achievements have varied a great deal across states/regions.

These achievements notwithstanding, whether the accrued benefits are commensurate with the public resources spent is still an unsettled question. The latest data issued by MORD, Govt of India on employment generation shows declining trends.<sup>7</sup> Whether these declines are due to the effective regeneration of natural resource base of rural areas leading to agricultural productivity and hence income increases and no more need for the programme or is it because the scheme is floundering due to issues in implementation, planning, continuous reviews and monitoring by MORD and/or misappropriation of funds affecting the outcome or is it what Dreze and Sen (2013) call a working fatigue factor has set in which calls for operational innovations: the activation of NREGA accountability provisions.

There is some truth in the above assertion, as even while we agree with its positive impact, the constraints imposed in the process of implementation have retarded its progress. When CAG report based on first phase districts of NREGA implementation cast doubts on the desirability of the scheme, Government of India initiated reforms to promote transparency in its implementation in the form of bringing all its documents and data into the public domain through management information systems. But in spite of all these efforts, awareness about some of the provisions of the Act still continues to be low. Low awareness about work on demand, low awareness about grievance redressal mechanism continues to afflict its implementation, which reduces its help to poorest of poor.<sup>8</sup> Similarly when provisions of the Act on planning at the Gram Sabha level are reviewed in terms of number of meetings of the Gram Sabha, extent of participation in Gram Sabha meetings, the role of Gram Sabha in the selection of NREGA works, the results from studies are found to be as dismal as in the case of awareness of the provisions of the Act [IIM Lucknow 2009, Central Institute of Fisheries Education 2009]. Non availability of work on demand, provision of dated receipt and payment of unemployment allowance are some of the other issues.

Two major studies conducted in Punjab: one by CRRID (2009) and the other by Agro-Economic Research Centre of Punjab Agricultural University (2011) lend support to the findings from across other states that while NREGA has impacted the lives of rural poor especially both women and SC and ST but the constraints of lack of awareness on provision of NREGA still haunts its implementation that results in a reduced impact.

However in the entire literature it is not seen whether increased capacity through NREGA in the rural economies are enhancing scale economies of production or retarding it due to arbitrariness of choice between work and skill enhancement. Further choice of 100 days of work is somewhat arbitrary as it may require more than that or less than that to reach optimum level of production.

#### 5. OBJECTIVES & METHODOLOGY OF THE STUDY

The broad objectives of the study are to explore features of agrarian rural economy following a simple Keynesian framework, find out its constraints of development and analyse whether NREGA is able to address these issues in a macro frame work. It is assumed that NREGA will generate sufficient demand of rural produces in a sustainable way through consumption boost up as well as create a multiplier effect through asset creation.

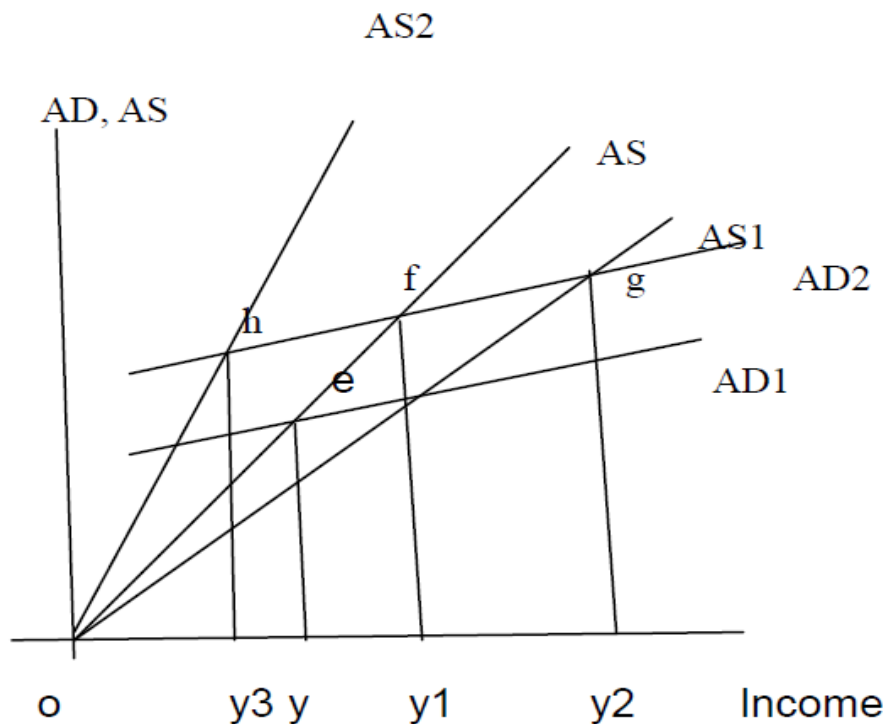
<sup>7</sup> Average days of employment created have been declining since 2009-10 from 54 days to 44 in 2013-14

<sup>8</sup> See NSSO (2010) and also Central Institute of Fisheries Education (2009)

We have followed theoretical analysis in a Simple Keynesian framework assuming changing average cost due to scale benefits in long run. At the same time concepts of envelop theories are used to portray rural economic activities and direct impact of external intervention on the economy through NREGA and induced impact of that on rural asset creation, demand generation leaving skill generation and other factors to move in a discrete way.

**Modelling & Theoretical Analysis:**

Keynes theory of national income determination is based on demand supply interaction as shown in the figure below.



Here  $y$  is the initial equilibrium level of income of a rural demand and supply constrained economy. This assumed economy is constituted by two groups of people – one, unskilled labourer with underutilized family assets due to absence of skill and social capital and the other group possessing only unskilled labour power without any family assets. Here we have further assumed that as first group can not optimally utilize their family assets so eventually they fall back on the labour earnings. In this situation NREGA can increase the social capital by giving employment to second group of people. At the same time it can make optimal use of family assets by this produced social capital through NREGA. So we find two kinds of effects as direct increase in investment demand (wage expenditure for NREGA works) indicating movement of the equilibrium point from point  $e$  to  $f$ . This is famous Keynesian multiplier effect increasing income from  $y$  to  $y_1$  in a demand constrained economy. The economy is also assumed to be supply constrained now, social overhead capital created by NREGA is going to have favourable impact on supply side of the economy through the scale effects of better utilization of family assets. This will impact on the average cost of production. For the favourable scale effect average cost will decline resulting a pivotal downward shift of the AS curve. Now the equilibrium point will further shift to point  $g$  showing additional increase in income from  $y_1$  to  $y_2$ . This is scale effect of NREGA works in a supply constrained economy, not considered by Keynesian Income Determination Model.

But this effect is not going to stay long as complementary factors( like skilled labour, other technological inputs, marketing policies of production etc.) will act as exogenous factor of the model. Optimal values of the endogenous variables will be functions of these predetermined parameters. If not changed proportionately given technology or as required with changing technologies, decreasing returns to scale will operate, increasing average cost of production, leading upward pivotal shift of the AS curve from  $AS_1$  to  $AS_2$  which may nullify even the favourable Keynesian multiplier effect. In the given figure due to this predicted unfavourable impact equilibrium income may decline even to  $y_3$ .

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This problem appears due to inability of the economy to uplift the local optima into the global optimum. Following Envelop Theory we can try to derive the global optima with endogenizing the given exogenous factors explained above.

Considering an economy, that can produce output with a set of inputs as family assets, social capital, skilled labour, and technological inputs along with other inputs.

Let the production function be of the form

$$Q = F(A_f, C_s, L_s, T, \dots)$$

Where, Q is the output produced in the rural economy.

$A_f$  is the family asset which is a variable input as per assumption of our model. The rationale behind this assumption is that family assets remain underutilised due to shortage of social capital. NREGA has made it variable as with increase in social capital families now can use their family assets in greater magnitude.

$F_{A_f} > 0$ ,  $F_{A_f A_f} < 0$  for given level of  $C_s$ ,  $L_s$ ,  $T$

$C_s$  is the social overhead capital. In our model it is an exogenous factor as its level is externally determined by the level of NREGA work ( $C_0$ ) in the economy. So here  $C_s = C_0$

$L_s$ ,  $T$  are the skill level of the economy and available technological inputs respectively, which are predetermined by government policies on skill development programmes and rural subsidization policies. So again by assumption  $L_s = L_0$  &  $T = T_0$  where  $L_0$ ,  $T_0$  are predetermined values.

Now optimum output of the assumed economy will be a function of  $C_0$ ,  $L_0$ ,  $T_0$  i.e.,  $Q^* = F(C_0, L_0, T_0, \dots)$ .

Now NREGA works can determine the optimum level of  $C_0$ , independent of  $L_0$ ,  $T_0$  which again determines rural output which will essentially be a local optima. In the long run this will accentuate the problem of increasing cost as assumed in our model.

This is an obvious problem in our present framework as NREGA works are not linked with Skill Development Programmes and/or Rural Subsidization Programmes.

## 6. RECOMMENDATIONS

NREGA works of social capital formation increases rural output and employment along with a strong demand side boosting in the rural economy. But still economies are not coming out of the low income employment trap because it has not considered the movement of related factors in their respective optimal level. So we are of the opinion that optimum work programmes cannot be determined in Gram Shabhas or in District Planning Cell as per budget sanction but a coordinated effort among different departments will design the programmes keeping in mind the production relations existing in the economy. Otherwise some short term success may illuminate but in long run rural economy will come back to the trapped level of income. Coordinated govt. effort should determine  $C_s = C^*$ ,  $L_s = L^*$ ,  $T = T^*$  i.e., optimum values of these variables which will lead to the global optimum avoiding the problem of increasing cost. Now these optimum values will determine days of work which may well be greater or even less than 100 days of stipulated works.

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