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Employment Guarantee Scheme and Employment Security

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I. INTRODUCTION

Public works programmes have long been recognised as effective policy instruments of poverty alleviation, especially in rural areas. The case for RWPs (rural works programmes) lies in the self-targeting nature of the schemes. There is a growing theoretical and empirical literature on the impact of public works programmes (or 'workfare') on poverty alleviation (Dreze and Sen, 1989; Ravallion, 1991; Besley and Coate, 1992; Sen, 1995). 'Workfare' is supposed to enable the social planner to separate the non-poor from the poor by connecting income transfers to participation in public works. The public works also fit into the ideas of Nurkse (1957) who regards surplus labour in low-income countries a potential saving useful for capital formation. The objectives of RWPs are to provide employment and to generate 'public goods' such as physical infrastructure. Their policy attractiveness lies in their self-selection characteristics since they can screen out the non-poor better, and also provide wage incomes to the poor. Furthermore, they are useful in the creation and maintenance of rural infrastructure which, in turn, provides positive externalities due to the public good.

A unique feature of the Employment Guarantee Scheme (EGS) of Maharashtra is that it provides employment on public works projects *on demand*. And this guarantee was created through legislation. Such a labour-market intervention in terms of providing employment to the unemployed, on demand, has an impact on the *employment security* of the rural poor. In developed countries, such security is offered by the state through unemployment insurance which is financed by a payroll tax on the working population. A programme such as the EGS acts as a proxy unemployment insurance and indeed, is financed by a payroll tax at the state level in Maharashtra.

The main objective of this paper is to analyse the experience of EGS in Maharashtra in order to learn about employment security. The problems encountered and the lessons learnt in the functioning of these schemes would be useful for suggesting reforms in India's wage-employment programmes.

The paper is organised as follows: Section II provides costs and benefits of EGS, while section III deals with regional dimensions and section IV examines lessons, reforms and the replicability of EGS. The last section provides conclusion.

II. EMPLOYMENT GUARANTEE SCHEME: COSTS AND BENEFITS

The EGS introduced in Maharashtra in the early 1970s is an innovative anti-poverty intervention. It provides a guarantee of employment to all adults above 18 years of age who are willing to do unskilled manual work on a piece-rate basis. The scheme is self-targeting by nature and is totally financed by the state government. The main objectives of the EGS are to improve household welfare in the short run (through the provision of employment) and to contribute to the development of the rural economy in the long run by strengthening rural infrastructure.[1] Here, we examine the costs and benefits of EGS.

1. Costs of the EGS

From a modest beginning of only Rs. 1.9 crore in 1972-73, the scheme expanded to an expenditure of Rs. 443.8 crore in 1995-96 (Table 1). During the 1970s and 80s, the EGS has consistently claimed 10 to 14 per cent of the total plan expenditure of Maharashtra state. During the Eighth Plan period, however, the EGS share in the plan expenditure declined to around 8 per cent.

The cost per person-day (at current prices) increased from about Rs. 4 in the first year to around Rs. 31 in 1989. The real cost per person-day rose in the 1980s and was particularly high in 1989-90. The real cost has not risen in the 1990s. The average real wage per person-day (at 1971 prices) rose from Rs. 1.7 in 1977 to Rs. 3.3 in 1983, then fluctuated until 1988. Since 1988, real wages have been about Rs. 4 because of the rise in minimum wages (Table 1).

If we consider EGS expenditure in real terms (deflated by SDP deflator) it has been almost flat or slightly decreasing. Real agriculture SDP growth in Maharashtra during 1980's was almost stagnant, i.e., showed an almost zero trend growth rate.

From 1977 to 1984, the share of EGS expenditure on wages ranged from 74 to 82 per cent. There has been a significant decline in this share since 1985. The main reason is that the capital costs are rising much faster than wage rates. As a result, the share of wages in total expenditure has declined over time. Based on recent data on share of wage costs, we can say that around Rs.1.66 are needed to transfer Re. 1 to EGS employees. Further, if we assume that 90 per cent of them are poor, Rs.1.84 are needed to transfer Re. 1 to the poor EGS workers.

EGS is completely financed at the state level, although it is approved as a plan scheme by the Planning Commission. Basically the state government levies a special tax on (mainly) the urban sector, as a profession tax, an additional sales tax and so on, and then makes an additional matching grant. The state's EGS expenditure is roughly 10 per cent of plan budget expenditure. This EGS fund is statutorily exclusively earmarked for EGS, and if unspent during a year, is carried forward. It is mainly a redistribution from the urban sector to the rural sector, rather than rural rich to rural poor. Until the mid-1980's the receipts under the EGS tax were greater than EGS expenditures and except for a few

Table 1
Quantitative Dimensions of the EGS, 1972-73 to 1995-96

Year	Total exp. (Rs.crore)	% of wage exp.	Employ-ment gene. (person-days in crore)	Nominal cost per day (Rs.)	Nominal wage per day (Rs.)	Real cost per day (Rs.)	Real wage per day (Rs.)
1973	1.88	N.A.	0.45	4.18	N.A.	3.64	N.A.
1974	1.89	N.A.	0.51	3.71	N.A.	2.73	N.A.
1975	13.72	N.A.	4.81	2.85	N.A.	1.73	N.A.
1976	34.61	90.95	10.95	3.16	N.A.	2.00	N.A.
1977	51.10	75.04	13.65	3.74	2.81	2.23	1.75
1978	51.54	73.98	11.73	4.39	3.25	2.53	1.95
1979	74.17	79.58	16.35	4.49	3.61	2.50	2.19
1980	109.23	81.89	20.54	5.32	4.36	2.63	2.31
1981	122.12	75.90	17.15	7.12	5.40	3.04	2.56
1982	126.17	77.74	15.60	8.09	6.28	3.23	2.63
1983	130.93	76.20	12.80	10.23	7.80	3.90	3.29
1984	184.98	75.34	16.45	11.24	8.41	3.88	3.17
1985	232.04	63.68	17.80	13.04	8.30	4.15	3.06
1986	272.24	66.85	18.95	14.37	9.60	4.23	3.39
1987	243.43	63.47	18.76	12.98	8.23	3.56	2.72
1988	288.31	53.19	13.32	19.06	9.11	4.92	2.76
1989	254.23	50.00	8.13	31.27	15.02	7.52	4.09
1990	239.28	53.30	7.80	30.68	15.53	6.93	3.97
1991	238.92	57.37	8.98	26.16	15.02	5.28	3.77
1992	308.54	65.79	11.94	25.84	16.91	4.51	3.28
1993	421.00	60.30	14.80	30.59	18.45	4.92	3.01
1994	310.00	–	9.74	–	–	–	–
1995	413.15	–	9.41	–	–	–	–
1996	443.75	–	9.70	–	–	–	–
1997	366.75	–	9.01	–	–	–	–

Note: 1. In col. 1, year 1973 refers to 1972-73 and so on. 2. Consumer price indices for agricultural labourers are used for obtaining real wages. 3. Implicit price deflators for SDP of Maharashtra are used to obtain real cost per day.

Source: 1. Cols. 1 to 8, Planning Department, Government of Maharashtra; 2. Col. 9, calculated by the author.

years of shortfall, has shown a surplus. It is claimed that as of March 1996 the accumulated EGS fund was of about Rs. 2,189 crore.[2]

2. Benefits due to EGS

(i) EGS and Targeting

There has been a debate about the effectiveness of the EGS in covering the target group. Using landless labourers as the criterion for target group, the PEO study (1980) shows that only 40 per cent belonged to the target group under the EGS. Ravallion (1991) questions this criterion and rightly says that "it is the poor whom we are trying to reach, not the landless per se"(p. 159). According to him, a better test would be to compare the income distribution among participants with that for the rural population as a whole. Using the results of micro studies, he showed that EGS was well targeted to the poor. For example, Dandekar's study (1983) shows that almost 90 per cent of the EGS workers belongs to poorer sections.

Using ICRISAT Village Level Studies' data, a number of studies have examined targeting performance of the EGS. Most of these studies have concentrated on Shirapur and Kanzara villages of Maharashtra. Walker and Ryan (1990) showed that wealth in the form of total assets was strongly and inversely related to participation in the EGS. Their results also reveal that the size of that relationship was larger for women as compared to men in both the villages. Between the two villages, the inverse relationship was much stronger in Kanzara, where the opportunity cost was higher because of abundant availability of agricultural employment opportunities.

Deolalikar and Gaiha (1993) also examine targeting performance in these two villages. On female participation, this study indicates that the scheme is well targeted to young agricultural labour, females with low levels of schooling who are household heads and who come from low-income and low-asset households. A study by Datt and Ravallion (1992) on these two villages show that, in general, low-wealth people participate in the programme. However, according to this study, there are signs that social stigma and work disabilities dilute targeting performance somewhat. In other words, the possibility of participation of high caste people and people with physical disabilities is less.

However, recent studies by Gaiha (1996a; 1996b) reveal that the EGS was mistargeted contrary to the conclusions of the former researchers. According to these studies, a little over 48 per cent of the EGS participants in 1979 were poor. In 1989, the share of the poor among EGS participants was a little over 27 per cent. Thus, the proportion of non-poor rose more than moderately. Gaiha's conclusions are based on data sets for the same two villages in Maharashtra (viz., Shirapur and Kanzara). However, it has to be mentioned that this evidence may not be true for the entire Maharashtra and the poverty lines used by the author appear to be much lower than official poverty lines. Further, most of the other evidences show that EGS is well targeted to the poor.

(ii) Mitigation of Underemployment and Unemployment at the Aggregate Level

Based on the estimates at the aggregate level it can be concluded that the contribution of the EGS to the total employment/underemployment in the state varies from around less than 10 per cent to one-third. However, the equivalent of 10 to 30 per cent of full-time employment has an impact on a much larger part of that group because the EGS employment is considered only as supplementary or part-time employment.

The average labour attendance under the EGS was approximately 0.50 million in the year 1993-94. In the same year the NSS 50th round data reveal that there were 23.2 million workers (self-employed as well as wage employed) above 15 years. Thus, the share of EGS workers in the total rural workers was only 2.2 per cent in the state. In the absence of EGS, at least theoretically, unemployment among rural workers would have been up by 2.2 per cent.

This is reflected in the trends in unemployment rates for Maharashtra in Table 2. The incidence of unemployment declined much faster in Maharashtra as compared to all-India. The decline was particularly significant between 1983 and 1987-88. This is true for female unemployment also. However, the unemployment for both males and females increased in Maharashtra between

1987-88 and 1993-94. During the same period the female unemployment for all-India declined. The reasons for increasing person-day unemployment in Maharashtra are yet to be explored.

Table 2
Incidence of Person-day Unemployment in Rural Maharashtra and Rural India
(In percentages)

Year	Maharashtra		All-India	
	Male	Female	Male	Female
1972-73	7.7	11.7	6.8	11.2
1977-78	5.9	9.3	7.1	9.2
1983	6.3	7.2	7.5	9.0
1987-88	2.9	3.5	4.6	6.7
1993-94	4.6	4.0	5.6	5.6

Note: Incidence of person-day unemployment is defined as a ratio of unemployment days to labour force person-days.

Source: Various rounds of NSS surveys on employment and unemployment.

(iii) Transfer Benefits under EGS

At the aggregate level we can estimate transfer benefits to the workers under EGS. Assume that the available funds are Rs.100. The gross transfer benefit to the unskilled workers is Rs. 60 (i.e., share of wage costs). Assuming 30 per cent of wages as foregone income and targeting efficiency of 90 per cent, the net transfer benefit would be Rs. 35 to Rs. 40 out of Rs. 100. If we assume Gaiha's finding of 27 per cent of transfer efficiency, only Rs. 11 out of Rs. 100 reach the poor. However, Ravallion and Datt's study (1995) on two villages from Maharashtra (Shirapur and Kanzara) shows that half of the gross budget disbursement directly reaches the participants most of whom are poor. This study found that the foregone income from employment on the public works schemes is quite low—around one quarter of gross wage earnings: most of the time displaced was in domestic labour, leisure and unemployment. It shows that workers are not losing much by participating in the EGS at least in the study villages.

(iv) Impact on Poverty

One criticism of the EGS is that, despite the scheme's existence, poverty in Maharashtra has not declined more rapidly than average. It may be noted that the EGS alone cannot lead to poverty alleviation. As some calculations can show, even if workers work full time on EGS, they can not earn enough to cross the poverty line. The problem of poverty is much wider than the coverage of EGS. The importance of EGS lies in both direct and indirect benefits. Although EGS may not have significant impact on poverty in terms of head count ratio, it has impact on intensity of poverty. It has helped the ultra-poor. Table 3 shows that the gap between the ultra-poor and the poor has been narrowing in recent times. This picture could even be better for districts where EGS is concentrated. The anti-poverty record of EGS is better understood by looking at district or region level data. The macro-level poverty ratios do not fully capture the impact of EGS on the poor because

EGS is concentrated in a few districts. Almost two-thirds of all EGS employment is concentrated in one-third of the districts.

Table 3
Poor and Ultra-poor for Rural Maharashtra, 1977-78 to 1993-94

Year	HCR 1	HCR 2	(HCR2/HCR1) *100
1977-78	63.97	54.10	84.60
1983	45.23	34.70	76.70
1987-88	40.78	28.10	68.90
1993-94	37.93	24.60	64.86

Note: HCR=Head Count Ratio.
Source: 1. HCR 1 from GOI (1993); 2. HCR 2 estimated by the author.

(v) Wage Debate

The dilemma to be resolved is whether it should be below or equal to market wage rate or legally fixed minimum wages (generally market wages are below minimum level). Initially the EGS wages were below the market agricultural wages. In 1988, with the doubling of the statutory minimum wage rate, the EGS piece rates were also doubled. Ravallion et al. (1993) reveal that higher wages led to rationing in the guarantee of employment. They argue that lower wages should be maintained in order to have wider coverage which would help the poor better as compared to the rationing due to higher wages. This issue should be resolved before replicating the EGS to other states. There is some merit in the low wage argument if one wants to concentrate on reducing the intensity of poverty. However, if the aim is to take the poor up to the so-called poverty line, obviously higher wages are needed. In recent years, the workers seem to have been shifting from EGS to JRY in Maharashtra because of the higher wages (Prabhu, 1996). Therefore, one has to verify whether reduction in EGS employment has been due to increase in wage rates or shifting of workers to JRY.

(vi) Indirect or Secondary Benefits

The case for EGS relies more heavily on secondary (or indirect) and stabilisation benefits, rather than on direct benefits. One of the second round effect of EGS is its contribution to the creation of rural assets. The EGS projects mainly relate to soil conservation, land development, percolation tanks and roads. They can have substantial impact on agricultural growth (Sathe, 1991). The EGS has been criticised for neglecting the creation of durable assets and paying more attention to employment generation. There is some merit in this argument but it may not be true for all EGS assets. The related criticism is that the agricultural growth in Maharashtra was very low in the 1980s in spite of EGS.[3] Here too one has to look at the disaggregate data, i.e., trends in agricultural growth at the district level.

Secondly, EGS puts an upward pressure on agricultural wages.[4] The guarantee part of the EGS increases unskilled labourers' bargaining strength in negotiations with an employer or landlord. There are evidences that the EGS wage rate has influenced the agricultural wage rate in Maharashtra (Acharya, 1990). Thirdly, one of the important aspects of the EGS is its insurance function.

In the absence of unemployment insurance in India, EGS can act as an insurance for the rural workers. The existence of a form of income/employment insurance could be quite significant although the increase in employment and income is not very large as compared with the aggregate needs. The EGS also have stabilisation benefit in the sense that the employment under the scheme is high in the lean season (April to July) and low in the peak season (October to January) (Table 4). Fourthly, it is worth noting that in rural Maharashtra, the EGS is known as a "programme of women". Various micro studies have shown that women constitute 40 to 50 per cent of the EGS workers. These large percentages could be due to the predominance of female labour in casual unskilled work in rural areas. Fifthly, by making employment entitlement, the EGS facilitates collective political action by the poor, and promotes the realisation of their common interest. The scheme also makes rural politicians more responsive to the demands of the poor. It provided the poor with opportunities for effective action and encouraged the mobilisation of their political resources and also improved the bargaining position of the rural poor. Noteworthy in this regard is the number of organisations that have emerged to organise the EGS workers.[5]

Table 4
Average Monthly Attendance on EGS Sites

(in 000's)

Month	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97
April	731	686	957	535	534	331	270	696	335	186	292	186
May	820	765	940	532	532	347	282	773	385	223	318	182
June	748	740	769	333	332	297	244	902	391	203	350	165
July	515	621	523	174	173	148	164	502	298	123	283	132
August	475	523	411	129	129	114	110	277	222	104	172	86
September	587	482	357	80	110	90	104	181	196	106	148	63
October	549	420	227	85	97	84	129	142	132	135	109	49
November	505	374	266	90	96	75	161	124	101	147	89	49
December	696	494	361	151	123	104	232	174	106	206	110	52
January	649	601	446	182	186	190	360	226	134	259	117	NA
February	639	739	472	238	246	247	511	270	150	285	131	NA
March	668	1061	493	309	307	253	535	294	175	293	162	NA

Source: Computed from the data from Planning Department, Government of Maharashtra.

(vii) Opportunity Cost to the Workers and to the Society

Participation in EGS involves some costs to the workers. However, since most of the employment under EGS is created during lean season, the opportunity cost of the workers may be low. The social costs could be very low because EGS employment is a net addition to the society.

(viii) Targeting Errors: EGS as Compared to Other Anti-poverty Programmes

The success of the EGS needs to be judged against alternate anti-poverty programmes or policies. Many evaluation studies have shown that the performance of EGS is much better as compared to programmes like IRDP. None of the other programmes have sustained large-scale operations for a

lengthy period or dealt with corruption and other administrative problems as effectively as the EGS.

In recent years, there are comparisons between EGS and Public Distribution System (PDS). However, actual information is not readily available for comparing the EGS and PDS. For illustrative purposes, we give here the comparison given by Guhan (1994) in Table 5. It shows that although transfer efficiency is higher under PDS than in EGS, the cost-benefit-ratio in the PDS may be only half of that of the employment programmes. This is because of better targeting in employment programmes. However, it should be noted at the outset that the coverage is much wider for PDS (for more on this, see Mahendra Dev, 1996a).

Table 5
Comparison of Cost-effectiveness in the EGS and PDS in India

		EGS	PDS
1.	Budgetary cost	100[1]	100[2]
2.	Overheads	50[3]	37[4]
3.	Leakage	10[5]	35[6]
4.	Gross benefit (1-2-3)	40	28
5.	Participation cost	16[7]	Neg[8]
6.	Net benefit (4-5) i.e., transfer efficiency	24	28
7.	Targeting efficiency (coverage of poor)	0.9	0.4
8.	Final transfer to poor (6 * 7) (benefit-cost ratio)	21.6	11.2

Note: 1. Aggregate cost for creating one person-day of employment. 2. Cost of food subsidy. 3. Administrative overheads and non-labour expenditures. 4. Distribution overheads such as freight, storage, costs, interest, etc. being 57 per cent of 65 per cent reaching consumers. 5. Underpayment of wages. 6. In transit and at point of sale. 7. Foregone earnings. 8. Negligible, assuming that foregone earnings due to waiting time and transport costs to retail shops are not significant.

Source: Computed from the data from Planning Department, Government of Maharashtra.

Cornia and Stewart (1995) divide the errors of 'targeted' government expenditures on poor people into two: 'E' mistakes in which benefits are provided to the non-poor as well as the poor, and 'F' mistakes in which some of the poor fall outside the scope of the programme. In employment programmes which are generally self-targeted, the 'E' mistakes would be lower than 'F' mistakes. In the untargeted programme like PDS, the 'E' mistakes (coverage of non-poor) are expected to be larger than in targeted programmes.

Reiterating in the case of EGS, 'E' mistakes are expected to be less and 'F' mistakes are expected to be higher as compared to those of PDS. For example, 90 per cent of the workers working under EGS were poor according to some estimates (Dandekar, 1983). In this case, 'E' mistakes are very low. However, 'F' mistakes are high under employment programmes because many of the poor are not generally covered. Another point is that EGS is considered superior to the PDS even if it does not create any assets (Parikh, 1994). EGS scores much more over other poverty alleviation programmes if secondary benefits such as asset creation, increase in agricultural wages, insurance benefits, etc., are

considered. If these benefits are considered, the impact of EGS on poor could be much higher than that of PDS.

To sum up, given some of the limitations in the EGS design and implementation, many studies, particularly at the micro level, have shown that the EGS has made positive impact on the levels of living of poor in Maharashtra. The unemployment rate has declined considerably and incomes of the poor have increased over time.

III. REGIONAL DIMENSION OF EGS

It is worth looking at the regional dimension for better understanding of EGS in Maharashtra. Ranade (1998) contains a detailed study of correlating the employment created under EGS with various parameters such as rainfall, irrigation, productivity, literacy and so on. The following are the findings of the study:

1. Apart from a region-specific variation, there is also a time-specific variation of EGS employment. In other words there is great variation of employment across month, the peak being usually during March to June. Thus, an approach to reforming EGS could be to concentrate EGS efforts only during the lean season of the year.
2. Almost two-thirds of all EGS employment is concentrated in one-third of the districts. Among the districts which consistently figure in the "top ten" list of districts sorted by employment generated since 1979, are Ahmednagar, Aurangabad, Beed, Bhandara, Dhule, Nanded, Nasik Osmanabad, Pune and Solapur. The ranking for cumulative person-days since 1979 is as shown in Table 6 which also reports the average annual

Table 6
Districts Ranked by Average EGS Employment Created from 1979-1997

Rank	Avg. annual person-days*	District	Rank	Avg. annual person-days*	District
1	141.06	Ahmednagar	15	43.03	Parbhani
2	103.95	Bhandara	16	32.84	Nagpur
3	102.76	Solapur	17	31.02	Amaravati
4	97.92	Nashik	18	30.51	Thane
5	76.56	Dhule	19	28.16	Jalna
6	71.37	Aurangabad	20	27.19	Buldhana
7	70.80	Beed	21	26.63	Akola
8	62.83	Osmanabad	22	23.15	Sangli
9	56.89	Nanded	23	22.53	Gadchiroli
10	55.39	Pune	24	20.93	Jalgaon
11	50.58	Latur	25	15.42	Ratnagiri
12	50.30	Chandrapur	26	12.38	Wardha
13	47.20	Yavatmal	27	8.72	Indhudurg
14	43.47	Satara	28	7.03	Kolhapur
			29	4.29	Raigad

Note: * Person-days in lakhs; Average computed using 1979-80 to 1996-97 data.,
Source: Computed from the data from Planning Department, Government of Maharashtra.

employment on EGS. Of these, Ahmednagar has been in the top two districts in six of the past 10 years in terms of EGS employment.

3. The percentage share of top 11 districts' EGS employment is given in Table 7 which shows that this is almost always above 70 per cent. It is fair to say that one-third of Maharashtra's districts account for three-fourth of EGS employment. Although the proper perspective would be to look at the population and in this respect EGS employment may not appear as skewed as when looked at in terms of districts. There is, however, a definite bias toward western Maharashtra, even though the number of agricultural workers is higher in the Vidarbha region of eastern Maharashtra.

Table 7
EGS Employment Share of Top 11 Districts

Year	Per cent	Year	Per cent
1984-85	73.33	1991-92	64.82
1985-86	75.88	1992-93	70.27
1986-87	76.01	1993-94	71.37
1987-88	72.94	1994-95	73.09
1988-89	72.80	1995-96	74.86
1989-90	65.07	1996-97	70.37
1990-91	61.51		

Source: Computed from the data from Planning Department, Government of Maharashtra.

4. Some of the features common to districts with high EGS employment are: (a) that they all have predominantly dryland agriculture; (b) the average size of operational landholding is somewhat higher than the state average of 2.65 hectare; (c) they together account for more than 70 per cent of land under sugarcane in the state (the most prominent district being Ahmednagar, followed by Nashik and Solapur), and a fairly high percentage of area devoted to fruits and vegetables (prominent being Nashik). The major crop in Beed, Nanded and Osmanabad is *jowar*. For Ahmednagar, Nasik, and Solapur it is sugarcane, although in terms of area *jowar* is prominent in Ahmednagar and Solapur (Table 8); (d) the percentage of the population reporting as workers is high for these districts, and so also the percentage of women workers as a proportion of total workers.

5. EGS data suggests a strong negative correlation between rainfall and EGS employment. All the rank correlations are significant at 5 per cent level, and most are also at 1 per cent level. Since high demand districts are predominantly rain fed, and produce mostly a single crop, this correlation is as expected. Moreover this also suggests a strong complementarity with labour demand for sugarcane, which is very seasonal, and peaks during harvesting season. This complementarity has also been indicated in Herring and Edwards (1983) and in a micro study conducted by Development Group (Sathe, 1991). It is worth noting, that in some other tests that we conducted to measure the correlation between normal rainfall for a district and EGS employment, for years upto 1987 the (negative) correlation was strong, but thereafter in the early 1990's the correlation

Table 8
Size Holdings, Sugarcane and *Jowar* in Dominant EGS Districts

District	Avg. size of operational land-holding	Area under sugarcane as % of district	Value of sugarcane as % of district	Area under *jowar* as % of district	Value of *jowar* as % of district
Ahmednagar	2.78	3.2	40.9	48.6	19.5
Aurangabad	2.73	1.3	18.5	38.2	22.7
Beed	2.96	0.9	12.1	45.2	29.0
Bhandara	1.49	0.2	1.1	5.9	1.3
Dhule	2.71	1.7	13.4	24.8	16.4
Nanded	3.02	0.8	5.3	41.0	25.9
Nashik	2.98	3.1	29.7	10.9	4.8
Osmanabad	3.83	1.0	11.0	38.6	23.4
Pune	2.68	2.5	24.5	51.1	18.3
Solapur	3.7	2.5	30.2	68.9	25.3
State	2.65	-	-	-	-

Source: *Profile of Districts*, CMIE, 1993.

though still negative is not as strong. This indicates that EGS employment is not merely determined by a region's normal or average rainfall pattern, but in fact is strongly affected by a particular year's actual rainfall. This reinforces the notion of region and time-specific pattern of EGS demand for work. It is thus more meaningful to look at the annual impact of rainfall on EGS demand, and not just a correlation between a region's average rainfall and EGS employment.

6. Demand for EGS employment is high in low productivity districts. However, the correlations with three year averages are not significant in some cases. But the 1986-89 average employment is correlated negatively with per hectare productivity data as reported in CMIE (1993), and is significant at 5 per cent level. Interestingly the correlation with respect to individual year data of 1981-82 is significant.

7. The gross irrigated area as a percentage of gross cropped area for the whole state is 11.85 per cent. Given that EGS employment is concentrated more in the arid districts with a substantial area under *jowar* (rain fed) it is to be expected that EGS employment is negatively correlated with irrigation related variables. As has been commented by Echeverri-Gent (1993) this correlation probably points to an underlying political dynamic, which has made EGS very prominent in western Maharashtra (where there a greater cropped area is under irrigation), as against eastern Maharashtra, which has managed to get comparatively lesser EGS employment. Our opinion is that apart from the political clout of western Maharashtra (including sugarcane intense districts such as Ahmednagar), this correlation points out the connection of EGS with cultivators rather than landless labourers.

8. Since EGS is a demand-driven scheme it would be expected that it would be concentrated in areas with a higher proportion of agricultural workers. As Echeverri-Gent (1993), Dandekar and Sathe (1990) and Sathe (1991) have commented, the correlation of EGS employment with proportion of

agricultural workers in the district is negative. This is so for various reasons: (a) In Maharashtra 74 per cent of those below poverty line are cultivators, not landless workers. This is because traditional dryland agriculture is able to keep them occupied for only five months of the year. So in the remaining part of the year they have to depend on EGS. Landless workers have a greater mobility and do not have to depend on EGS as much. Sathe (1991) reports that 58 per cent of his sample EGS households were cultivators. (b) The design of EGS takes into account that it does not interfere with "normal" agricultural operations like sugarcane harvesting. Hence wages under EGS may not be as attractive to agricultural workers, especially in peak season. Additionally since they are not paid daily, and tied to the group productivity, they are not as attractive as farm work wages. (c) Cultivators being more "tied to the land" have fewer seasonal migration options. Also to the extent EGS provides supplementary income as secondary wage earning, it results in greater cultivator households being represented in EGS. (d) Agricultural workers are more predominant in eastern Maharashtra (Vidarbha region) which seems to have a smaller political pull as far as attracting EGS employment is concerned.

Geographic and Seasonal Targeting

From the above findings and from the past 25 years' of data it is clear that demand for EGS employment is region specific. Stark examples are provided by the districts of Thane and Sangli. Thane, being adjacent to Mumbai is a highly industrialised district, and resultantly there is not much demand for EGS from the district as a whole. However, all of EGS employment is concentrated in two blocks (*talukas*) of the district (Jawhar and Mokhada), which have a very high proportion of tribal population. This is testimony to EGS's targeting efficiency.[6] Thus, this can be used to explore the idea that EGS can be focused more on regions which have historically shown to be vulnerable. Such geographic targeting along with other criteria can prove more effective in reaching the needy. In Sangli district six out of eight talukas are drought prone, but total EGS demand is relatively small. In this district too the case of geographic targeting can be explored.

The case for seasonal targeting is similar. EGS employment peaks during the slack season of April to July. Thus, instead of guaranteeing employment throughout the year, it may be concentrated more effectively to the slack season of the year. This is consistent with EGS's original intent of not interfering with 'normal' agricultural operations and production. To the extent that it is a labour market intervention, choosing appropriate time and place can make it more effective and less disruptive.

IV. LESSONS, REFORMS AND REPLICABILITY

1. Lessons from EGS

One of the important lessons that the EGS has taught is that rural public works can be designed and administered on a large scale. Further, taxing the urban middle class and rich for the EGS funds indicates that it is also a means for urban-rural transfers of resources. Another important lesson one can learn from

the EGS is regarding the wage rate to be followed in rural public works programmes.

Initially the EGS wages were below the market agricultural wages. In 1988, with the doubling of the statutory minimum wage rate, the EGS piece rates were doubled. The EGS is now required to pay wages at the statutory minimum rates, which are higher than market rates. 'This requirement implies substantial budgetary outlays and potentially high social costs in lost output from alternative employment' (World Bank, 1990). As mentioned above, Ravallion et. al (1993) argue that lower wages should be maintained in order to have wider coverage which would help the poor better as compared to the rationing due to higher wages. They also show that after the increase in 1988, the EGS wages did not have impact on agricultural wages. Rationing of the EGS also dampened the expected second round income effects arising through agricultural labour market and the insurance effect. Recent experience, however, suggests that there is a need for increase in EGS wages because these wages are less compared to programmes like JRY. Half the resources for the EGS budget are provided by the urban population. Government officials say that finance has not been a problem. There is widespread support for the EGS because it offers something for everybody and is one of the state's most popular programmes. It has the support of all groups for varying reasons. These factors are responsible for sustainability of the programme. Maintenance and utilisation of assets created under EGS are observed to be far from satisfactory. Some evaluation reports on this aspect have been summarised by Acharya (1990). The evaluation shows that the utilisation of assets has not been uniformly satisfactory in all the districts. In some other areas, however, the assets created under the EGS in the surveyed areas has led to positive developments on agriculture and rural non-agriculture activities. Other RWPs can learn lessons from the EGS regarding its success and failures in maintenance and utilisation of assets. There are many lessons to be learnt from the role of voluntary organisations which help in delivering the EGS benefits to the workers. For example, Lal Nishan Party is active in helping the poor in Pune, Dhule and Ahmednagar districts. A study on Jawahar Taluka of Thane district (Deshpande, 1988) shows that the existence of a receiving mechanism in the form of a labour organisation namely, Bhoomi Sena helped in improving the delivery of the EGS benefits.

As shown by Dreze (1990) the public works programmes helped in preventing the famine during the drought of 1970-73 in Maharashtra in spite of the low and declining per capita availability of foodgrains in the state. African countries can learn a lot from the experiences of Maharashtra in the prevention of famines. In addition, EGS offers lessons on how to reach the poor in an effective manner, reducing gender inequities, responsiveness to crisis, responsiveness to seasonal fluctuations and spatial differences in poverty and, generating many indirect benefits.

2. Reforms under EGS

The EGS has been in existence for a long period—25 years so far. There is a need for some changes which would be more effective in helping the poor without altering the basic structure of EGS. Some of them are the following:

(i) Wage Rate

The workers under EGS in Maharashtra seems to be shifting from EGS to JRY because of the higher wage rates in the latter. The data for 1995-96 shows that around 9.12 crores person-days were created under JRY. This number is almost equal to that created under EGS. There is a need to have some parity between these two schemes. The wage rate must be raised in such a way that a person working 300 days a year can lift himself or herself and dependents above the poverty line.

(ii) Resources under EGS

The government may resort to employment rationing if the hike in EGS wages is not accompanied by a matching increasing in the outlay. This seems to have happened in the late 1980s. In real terms, there has not been much increase in the outlay under EGS in recent years. The resources have to be increased if the government is serious about increasing wage rates under the scheme. Apparently, there is accumulated surplus of nearly Rs. 2,000 crores in the Employment Guarantee Fund. These funds can be utilised for paying higher wage rates and better infrastructure.

(iii) Asset Creation and Organisational Aspects

Some organisational aspects have to be sorted out in EGS. Improper planning, inadequate project selection and design, lack of technical and organisational supervision, and finally long delays in implementation have affected the productive quality of capital constructed. The EGS has been criticised for neglecting the creation of durable assets by paying more attention to employment generation. The initial emphasis on creation of durable assets got watered down due to public pressures for starting road works. One major weakness of the EGS is the lack of adequate planning for assets. It may be noted that volatile demands from the workers also creates problems for the projects. Droughts, natural calamities or even seasonal changes cause dramatic shifts in demand. Because of sudden increase in demand, new projects have to be undertaken which may be of little productive value (Dantwala, 1978).

(iv) Maintenance of Assets

Maintenance and utilisation of assets are observed to be far from satisfactory. The problems in ensuring adequate maintenance are two-fold. First, there has been a considerable delay in handing over completed works to the *zilla parishads* for maintenance. Second, even where the works have been handed over, the local bodies did not allocate resources for the maintenance of the EGS assets. Consequently, the maintenance of assets has been neglected. There is a need to allocate some part of the EGS funds for maintenance of the assets.

(v) People's Participation

Some evaluations have shown that the EGS plans and implementation is dominated by bureaucracy without people's participation. People's participation in selection and management would improve the productivity and sustainability of the assets.

alternative poverty alleviations programmes. In other words, one has to examine whether there are any other programmes which can reach the poor cost effectively as compared to public works.

However, a case can be made for creating productive assets under wage employment programmes without diluting the primary objective of poverty alleviation. Effective involvement of panchayats, planning of projects at local level using local priorities, involvement of voluntary organisations, right to information at panchayat level and, social mobilisation, etc., can contribute for creation of high productive assets and better maintenance of the created assets. Also, for the effectiveness of the programmes it is important that projects of these schemes are identified in the framework of planned development of an area.

Finally, special wage employment programme is not a substitute for a sustained and broad based growth process. However, in a country like India, which has surplus labour and poor infrastructure, public works can be a useful component of poverty alleviation strategies.

Notes

1. For more details on EGS, see Mahendra Dev (1995; 1996).
2. For details, see Mhatre (1997).
3. Suresh Tendulkar, Delhi School of Economics (personal communication).
4. There is also casual evidence of a labour shortage in Maharashtra, along with significant seasonal unemployment.
5. Also see Echeverri-Gent (1988), Subba Rao (1992), Hirway and Terhal (1994) on the benefits of EGS.
6. Details of EGS in Thane district can be found in a comprehensive study by Deshpande (1988).
7. There is already one scheme on horticulture under EGS.
8. It may be noted, however, that compared to other anti-poverty programmes in India, corruption may be lower in the EGS. The decisions of the officers responsible for planning and implementing the EGS are more open to outside scrutiny.
9. See Mhatre (1997).
10. There is evidence of rising water tables in some prominent EGS districts caused by percolation tanks and *nallah* bunding undertaken in EGS.
11. Another valid criticism of public works is that they do not increase the skills of workers. Also, in future, skill based workers are going to get much higher wages and the wage employed people continue to get lower wages (Dantwala, 1996). The gap between unskilled and skilled would widen further particularly after the introduction of economic reforms in the country.

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