

The Maharashtra Employment Guarantee Scheme: Its Response to Differences in Employment Patterns between Districts

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Introduction

The Maharashtra Employment Guarantee Scheme provides an unlimited guarantee of employment to all men and women above the age of 18 years in the rural areas of the state of Maharashtra in India. This state had a total rural population in 1981 of 41.2 million. The guarantee extends to all those who are willing and able to work at the given wage in construction activity on rural public works projects. These projects are generally within five miles of the village. There are no separate income or other eligibility requirements.

The overall goals of the scheme are to sustain household welfare in the short run through provision of employment and income and simultaneously to make a lasting contribution to the development of the rural economy in the long run through the strengthening of rural infrastructure.

The scheme has been in full operation for 15 years. During the year April 1986/March 1987, the scheme generated the equivalent of 625,000 person-years of employment.

I. Problems and Employment Trends

The Maharashtra Employment Guarantee Scheme has been the subject of controversy since its inception in 1972. During recent months, concern about the scheme has grown. An important reason for this concern is the fairly rapid growth that has taken place in employment provided under the scheme in the state as a whole. The costs of the scheme have increased even more sharply, mainly because of increases in the wage rates paid to workers.

What is perhaps of greater importance, the scheme has faced serious difficulties in selecting and implementing suitable small infrastructural projects within eight kilometers of the village as required under the scheme. Some of the projects implemented have been of doubtful value in promoting rural development. Many of them have been poorly designed and engineered. They have often not been sufficiently durable or effective because of poor construction and inadequate use of material inputs such as bricks, cement and steel. A relatively large proportion of projects have remained incomplete.

In addition, there have been many problems with labor. Discipline on many projects is poor and labor productivity is low. The feeling seems to have grown that the right to employment under the scheme does not carry with it the obligation to work. There is, in any case, very little supervision and the quality of work done is poor.

These difficulties have resulted in a questioning of the overall wisdom of the scheme even by its supporters. A view has gained ground that the problems of the scheme -- in particular the rising volume of EGS employment -- result from the political pressure to start new EGS projects that is generated by the open-ended guarantee of employment provided under the scheme.

Against this background, it is felt that it might be desirable to make the scheme less automatic than it is now and put various limits on the right to employment provided under it. Among possible changes that have been talked about are imposing a budgetary limit on the amount to be spent on the scheme as is done in other schemes, providing employment only during the slack season, restricting employment to only one member per family, imposing a maximum income limit or restricting employment to the landless and so on.

The Maharashtra Employment Guarantee Scheme as it exists now provides employment on a guaranteed basis to both men and women in the rural areas of the state. Given the nature of the rural economy, those who live in rural areas have three types of supplementary employment needs -- structural, seasonal and crisis (mainly when crops fail). The scheme meets all these types of needs.

Employment under the scheme is provided in the form of unskilled labor to be performed primarily in construction activity. The projects chosen for the purpose are generally for the creation of infrastructural assets -- roads, irrigation facilities, land improvements and afforestation. These assets are expected to generate permanent increases in employment and income when they become operational and thus to contribute to rural development.

The scheme is thus intended both to provide employment to the rural unemployed and to utilize the pool of labor they represent. It should, therefore, strengthen the rural economy in both the short and the long run. By operating through a guarantee rather than through administrative decisions to provide relief when officials consider this to be necessary, the scheme ensures that employment is provided when and where it is needed and the labor is utilized when and where it is available.

Since the scheme thus operates on a continuous basis, though particular projects do not, it becomes possible to set up an administrative apparatus which can plan its operations and respond flexibly to changing needs, including those needs that arise when there are emergencies because of crop failures or other disasters.

The scheme as it exists now is self-targeting in nature. There is no means test. Thus, the scheme assumes that those who offer themselves for EGS employment at any given time are those who are in need of such employment at that time. These needs depend on circumstances, which vary from area to area, from season to season, from year to year and even from family to family. They are, therefore, not easily amenable to ex_ante definition or bureaucratic decision-making.

The automaticity of the scheme and its open-ended commitment to provide employment to all those who offer themselves for employment are thus central to the scheme. By meeting variable rural needs for employment when and where they are expressed, the scheme also ensures

that the employment provided under it reflects more or less accurately the need for such employment as it exists in various parts of the state at different times.

Changes of the kind suggested would thus destroy the fundamental nature of the scheme. It would lose its flexibility through which it is now able to handle the differing and highly variable employment and income needs of people in different parts of the state. Such changes would leave large unsatisfied needs for employment and income. They would thus have adverse effects on the food security of the poor.

If such changes are made, it may well happen that other budgetary expenditures, including unfortunately expenditures on maintenance of law and order, would rise, thus making the savings generated by the changes in the scheme quite illusory. Political pressures may in these circumstances also cause distortions in other policies and programmes, imposing heavy costs on the economy and having budgetary repercussions.

One of the great advantages of the present scheme is that the data on employment under the scheme, if they are properly analyzed, provide valuable insights into the nature of the differing employment and income problems of different parts of the state and throw light on how these have changed over time. Comparable information on the patterns of and changes in agricultural employment and rural unemployment is not available and cannot be obtained cheaply or easily.

The data on EGS employment, properly analyzed, thus provide today an extremely valuable tool for planning not only for the scheme itself but also for the rural economy. Proper analysis of EGS employment data also suggests that some of the perceptions about the failures of the scheme on which the suggestions for modifications in it are based are mistaken.

Employment under the scheme has varied considerably within each year as well as between years. Looking at raw aggregated data, therefore, does not give an adequate understanding of how the scheme has operated. In a study that has been undertaken at the International Food Policy Research Institute in Washington D.C., half-monthly data on the number of persons employed under the scheme in the state as a whole and for each district over the period 1975-87 were decomposed into trend, seasonal and residual components (on a multiplicative basis).

The residual component was then further treated to bring out periods of crisis during which EGS employment became extremely high for an extended period of time relative to the levels represented by combining the trend and seasonal components.

The results showing the levels of employment, trend rates of growth, seasonal patterns and crisis periods were then analyzed. The results of such analysis are illuminating.

On a trend basis, the average level of EGS employment rose from 404 thousand in 1975 to 633 thousand in 1987. EGS employment thus grew at a rate of 3.6% per annum. This should be compared with the growth of the rural population of the state between the ages of 15 and 59, which occurred at the rate of 1.9% per annum. As a result, trend EGS employment as a proportion of the relevant rural population grew from 2.1% in 1975 to 2.6% in 1987.

These results appear to support the perception that EGS employment has grown over time. However, the rate of growth appears to be small relative to the growth rate of the relevant population. Besides, the proportion of the population employed under the scheme on a trend basis is also small, though this has increased significantly over time. The issue is whether the problem of rural unemployment and inadequacy of income has not really worsened broadly to the extent indicated by the growth in EGS employment.

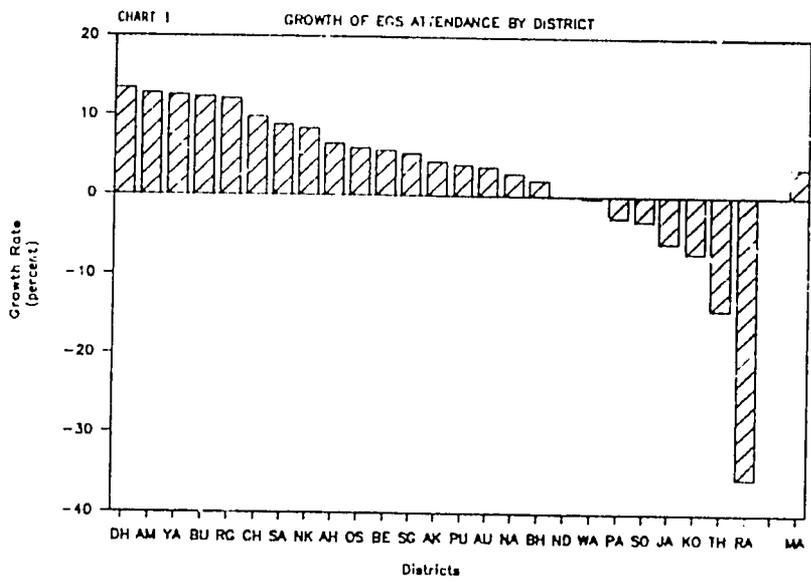
A variety of other economic and social indicators could be examined to throw light on this question. However, internal evidence from further analysis of EGS data also suggests that changes in EGS employment over time probably provide a fairly good reflection of changes in underlying economic conditions.

A district-wise analysis shows that EGS employment did not grow uniformly throughout the state (Chart 1). Trend rates of growth in fact varied quite significantly among different districts. Employment grew extremely rapidly, i.e., at rates above 10%, in five districts, with the highest rate being 13.4% in Dhule. At the same time, there were as many as seven districts which had negative rates of growth.

In Raigad district, for example, EGS employment actually fell at a rate of 35.5% per annum. However, the proportion of the relevant population employed under the Employment Guarantee Scheme in this district was extremely small to begin with -- only 0.56% in 1975. In Thane, where EGS employment fell by over 14% per year over the period, the proportion of EGS employment to the relevant population was much higher in 1975 -- 3.4%. This fell sharply to only 0.43% in 1987.

There is no reason to believe that political pressures could have been so low in some districts that trend EGS employment would be much lower than in other districts and decline in them in absolute terms over the period when total EGS employment for the entire state was rising. Nor can one explain the extremely high trend rates of growth of EGS employment in some districts as being due to political pressure.

In Ahmednagar, for example, EGS employment grew at the rate of 6.4% per year, with the proportion of EGS employment to the relevant population increasing from 3.6% in 1975 to 6.5% in 1987. In this district, the output of its principal crops -- cereals and sugarcane -- fell at an average rate of 1.5% and 1.3% respectively over the period. It is doubtful whether the effects of this fall in agricultural output



- CODE DISTRICT
- DH Dhule
 - AM Ahmednagar
 - YA Yavatmal
 - BU Buldhana
 - RC Ratnagiri
 - CH Chandrapur
 - SA Satara
 - NK Nasik
 - PA Pune
 - OS Osmanabad
 - BE Beed
 - SC Sangli
 - AK Akola
 - FU Ferozshahpur
 - AU Aurangabad
 - MA Mahapur
 - BH Bhandara
 - ND Nanded
 - WA Wardha
 - PA Parchana
 - SO Sholapur
 - JA Jalgaon
 - KO Kolhapur
 - TH Thane
 - RA Raigad
 - RA Maharashtra

were offset by a rise in non-agricultural rural employment. The rapid growth in EGS employment in this district is thus not surprising at all.

II. Seasonal Patterns and Crises

In addition to the wide differences between districts in the levels and rates of growth of EGS employment that have already been noted, substantial differences are also found between districts in the seasonal pattern of EGS employment.

In general, the seasonal pattern of agricultural employment depends on the annual cycle of agricultural production. The more a district's agriculture is based on a single crop, the more pronounced its seasonal pattern of agricultural employment will be. Those districts with a high degree of seasonality, experience acute unemployment for several months in a year, but have relatively little structural or on-going unemployment. In contrast, in those districts with low seasonal variation, the problem is largely one of structural or on-going unemployment, whatever the size of such unemployment might be.

For most parts of the state, the slack agricultural season occurs roughly from December to May and the busy season from June to November. However, the commencement of the normal busy season varies by district depending on the normal onset of the monsoon. In some districts, a second crop reduces the extent of unemployment during the slack period.

The seasonal pattern of agricultural employment is also affected by the extent of sugarcane grown in the district. For sugarcane, the early months of the calendar year are the busiest and the slack months occur approximately between June and October, i.e. the busy agricultural season for other crops.

Given its nature, the seasonal pattern of EGS employment should be roughly a mirror image of agricultural employment. Since the agricultural economies of different districts exhibit wide differences in these respects, one should expect the seasonal patterns of EGS employment also to show wide differences between different districts both in the timing of, and in the extent of variation between, seasonal peaks and troughs. This is exactly what is seen when the district-wise EGS employment data are analyzed for their seasonal characteristics.

Within the normal busy agricultural season, the trough of the seasonal EGS employment pattern is found to occur as early as July in Ratnagiri, Kolhapur, Raigad and Thane, while it occurs as late as November in Sangli, Nanded and Osmanabad.

Districts with a high degree of seasonal variation are Kolhapur, Bhandara, Thane and Buldhana. These had coefficients of variation

ranging between 0.60 and 0.73. Districts with low variation are Sangli, Satara, Sholapur and Ahmednagar with coefficients of variation ranging between 0.08 and 0.14.

Chart II presents the seasonal patterns of EGS employment for three selected districts - Bhandara, Yavatmal and Sholapur. The behavior of the seasonal patterns in these districts illustrates the differences found in this respect between different districts.

Bhandara is a district with a high degree of seasonal variation, with a range between the peak and trough ratios of seasonal to trend EGS employment of 1.8. This is not surprising since this district receives a relatively high volume of rainfall and its economy is largely based on a single crop - rice.

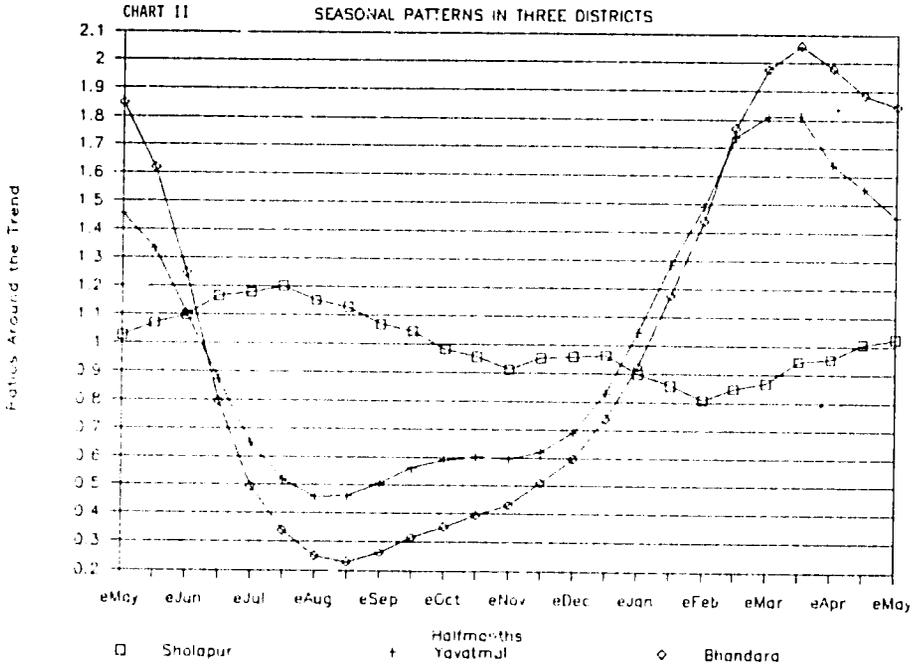
Yavatmal's need for EGS employment varies from a low of 0.46 times its trend employment in the busy agricultural season to a high of 1.8 times its trend employment in the slack agricultural season, the total seasonal range thus being 1.34. It thus reveals a combination of both seasonal and structural unemployment.

Sholapur shows a flatter seasonal pattern, with a total range between peak and trough ratios of seasonal to trend employment of only 0.39. Besides, the timing of Sholapur's seasonal pattern is inverse to that of the other two districts. These features of the seasonality of EGS employment in the district are not surprising because sugarcane plays an extremely important role in Sholapur's cropping pattern. However, the high trough ratio of 0.81 shows that Sholapur's unemployment problem - whatever its size - is primarily a chronic or structural one.

Work is still being done on relating the seasonality of EGS employment to whatever is known about the seasonality of the cropping patterns in different districts since detailed data on seasonal variations in agricultural employment in different districts are not available. However, from what has been said earlier, it appears reasonable to assume that political pressures on the starting of EGS projects could not explain the differences in district seasonal patterns that are exhibited by EGS employment. They must be the result of genuine differences in the seasonal patterns of needs for employment in the different districts.

The seasonal EGS employment patterns in fact provide extremely valuable information about the seasonal behavior of agricultural employment on which very little direct information is available. This information can be extremely useful in formulating policies and in planning not merely for the EGS scheme itself but also more broadly for the development of the state.

A specially noteworthy feature of the Employment Guarantee Scheme has been that, apart from meeting normal and seasonal needs, it has also automatically provided employment to the much larger numbers of



those in need during crisis situations such as those caused by drought. Bhandara provides an example of how acute the need for additional employment can be during a crisis period. In this district, in April 1980, attendance on the EGS rose to 260 thousand or 12 times the normal trend/seasonal level of 21.6 thousand for that month.

Crisis has been identified as an extended period of high values for the non-random residual ratio of actual employment to the combined value of the trend and seasonal components. Some of the districts that were more severely affected by crisis conditions were Bhandara, Ratnagiri, Wardha, Chandrapur and Dhule. However, there were some districts that were relatively little affected by crisis periods. These were Satara, Aurangabad, Sholapur and Sangli.

An examination of the non-random residuals also shows that a relatively large number of districts were affected by crisis during 1976-78, 1978-80, 1983-85 and 1986-87. However, different districts suffered from such crises at different times. As a result, during the period under review, the state as a whole suffered from a serious crisis in only one year - 1979-80. During this year, ten districts faced a serious crisis and another seven a mild crisis.

In some years, bad conditions in some districts were offset by good conditions in others. Thus, during 1986-87, though five districts - Nagpur, Osmanabad, Kolhapur, Sangli and Raigad - experienced a year of serious crisis, the state as a whole did not reflect the existence of a crisis. In 1982-83, when the employment situation in the state as a whole was actually better than normal, there was still one district, Akola, that experienced a serious crisis.

Two conclusions can be drawn from this discussion.

One, even when the situation appears normal for the state as a whole, a crisis situation may in fact face individual districts; the Employment Guarantee Scheme takes care of this situation automatically.

Two, the sharp growth in EGS employment that occurred in various districts during different years was due to crisis situations that faced them rather than political pressures operating independently of real need; when the crisis needs disappeared, the volume of EGS employment fell back to normal.

The fact that the Employment Guarantee Scheme took care not only of structural and seasonal employment needs but also of the much larger employment needs arising during crises is of great significance. It means that the existing administrative apparatus of the scheme was flexible enough to expand and contract in different districts in accordance with changes in all types of needs including those resulting from famine.

The scheme was able, because of its automaticity, to take care of crisis needs in particular districts even when these were too small in terms of the state as whole for notice to have been otherwise taken of them and suitable action taken.

It seems likely that if separate administrative decisions had been necessary to set famine relief schemes into motion, there would have been many slips and delays in providing needed relief in particular districts. The consequences would have had to be borne by the poorest sections of society in the form of forced temporary migration to cities or extreme hunger and even starvation.

The fact that the scheme created relief employment in times of famine is of great significance in another context. It means that the costs of famine relief in Maharashtra provided comprehensively and automatically whenever and wherever needed without requiring an administrative decision regarding the existence of a crisis in some particular part of the state are included in the costs of the scheme. Besides, these costs, varying in each district according to its varying requirements in different years, are broadly but automatically equalized for the state as a whole along insurance lines.

If the guarantee provided under the scheme is sharply constrained, the costs of famine relief - which would also become less comprehensive and responsive to real needs - would be incurred separately in addition to the costs of such a new, constrained employment scheme. Total costs for what would be less beneficial and effective would not necessarily fall very much and might even rise.

III. Suggestions for Improvement

It has been shown that the levels, trend rates of growth, seasonal patterns and crisis induced behavior of EGS employment showed wide variations between different districts. As has also been shown, these differences can in general be explained by differences in underlying economic conditions.

The growth of EGS employment in the state as a whole is the result of varying growth in different districts. It should, therefore, be expected to provide a reasonably accurate picture of the change in the income and employment situation in the rural areas of the state over this period. Considered in these terms, the actual trend growth rate of 3.6% per year in EGS employment does not appear to be excessive relative to population growth.

This does not mean that there were no political pressures to start EGS projects, but that EGS employment would have grown only if people really needed employment at the time and place at which such projects were started. This indicates that political pressures probably functioned broadly as instruments for translating actual needs into EGS employment.

It is not intended to suggest on this basis that all is right with the scheme. The operational problems faced by the scheme should certainly not be minimized. Nor should the weaknesses that exist in long-term asset creation under it.

However, these problems and weaknesses can be tackled without gutting the scheme of the critical feature that has enabled it to play a seminal role in providing food security in the rural areas of the state through security of employment and income. This feature is its open-ended guarantee of employment in the rural areas of the state.

It is this feature which ensures that all types of employment needs -- structural, seasonal and crisis -- are met as they arise in varying degrees in different parts of the state. These needs would not be adequately met if this feature were to be removed or eroded.

The measures that are needed to deal with the operational and long-term difficulties of the scheme can be considered under three heads:

- (a) planning,
- (b) projects, and
- (c) implementation.

Planning is of critical importance for a scheme of such large size, covering as it does all the rural areas of this very large state and costing several hundreds of crores of rupees every year. Planning is necessary for the scheme itself. Besides, general planning for the development of the state must also respond to the existence of the scheme.

The employment guarantee scheme is characterized by many uncertainties. Since it provides an open-ended guarantee of employment, the volume of employment to be provided could be expected to vary significantly over time and space. If the variations in employment requirements are quite erratic, it would be difficult to plan for them. In that case, the only solution would appear to be to respond to them in an ad_hoc manner as they are expressed. However, variations in EGS employment needs are not as erratic as they seem at first sight.

The analysis of EGS employment data presented earlier in this article -- though meant to be illustrative rather than comprehensive -- shows that various underlying patterns are discernible in the district employment data. These patterns differ from district to district. They probably also differ from taluka to taluka within each district and from development block to development block within each taluka.

The results obtained by statistical analysis on the levels, trends and seasonality of EGS employment can be used to obtain

projections of likely levels of normal employment in each area at any point of time for a future year. These can then be used to plan for the provision of employment, allowing for possible variations of actual from projection even in normal years on the basis of margins of error or the average size of residuals found at such times.

Predicting crisis employment is a more complex task, but can be done though with a much smaller lead time. Data on the behavior of crisis employment in each district over past periods can be analyzed to show how emerging crises tend to get reflected in non-random ratios of residuals to trend/seasonal levels of employment in each area. Data on the behavior of rainfall, area planted and other seasonal variables relating to agriculture can also be analyzed along similar lines.

The data on EGS employment and on these seasonal variables in the current year -- provided such data are collected and analyzed promptly -- can then be used to generate, with a lead time of a few months, advance indicators of forthcoming crises and of their likely magnitude. These can be used to plan for possible crisis requirements of EGS employment.

Some flexibility will still have to be maintained. However, this will in general be for variations around values that can be reasonably projected. On the basis of continuously updated data, therefore, the authorities can plan for EGS employment with a considerable degree of certainty on likely core requirements.

Proper planning for the economy is necessary for its own sake but could also lighten the burden of EGS employment and its fluctuations over time. Such planning would be greatly assisted by the information about the nature and magnitude of employment needs that the Employment Guarantee Scheme provides.

As has been illustrated, the EGS data show that for some districts the need is primarily for an addition to the total volume of employment opportunities over the entire year; their employment problem is primarily structural in nature. For other districts, the need is primarily for an addition to employment during the slack season; their employment problem is primarily seasonal. For the first type of district, the need is for overall growth of employment opportunities. For the second type of district, the important need is for diversification, which at least in agriculture might, for example, suggest the need for more double cropping.

Similar differences may be found in different districts with respect to crises. Protection against failures of the monsoon-- which is otherwise liberal -- may be important in some districts. In others, the need may be for conserving the limited available moisture during the monsoon in both good and bad years to make larger crops possible.

Projects are the instruments through which EGS employment is translated into permanent growth in employment and income in the future. As originally envisaged under the scheme, there should be shelves of ready projects of all kinds that can be pulled out for implementation from time to time in different areas. If such ready projects are not available on the shelf, it is likely that the assets created will not be durable and will not contribute much to the long-term growth of employment and income.

The projects included in shelves of ready projects must be properly selected and formulated. They must be as carefully designed and engineered as any other project and must make adequate provision for inputs like bricks, cement and steel (as well as for the simple tools required to carry out tasks).

EGS projects must of course be labor intensive in nature, but the costs of needed materials should be excluded in determining labor-intensity for this purpose. Only machinery and equipment should be counted as capital in determining the capital-labor ratio. The costs of the materials should be treated as needed to provide long term growth in employment and income, not the current employment that the scheme provides.

Such projects must then be carefully evaluated to ensure that they will really benefit the area in terms of employment and income on a permanent basis in the future.

Finally, EGS projects must be integrated into the development process in the area. They must be considered in relation to other assets and development programmes that exist or will be implemented shortly, as has, for example, been successfully done to some extent in the Comprehensive Watershed Development Programme in Ahmednagar District.

EGS projects may be highly labor intensive and may be undertaken in response to employment needs rather than by separate decisions, but their role in the creation of assets should not be treated as being fundamentally different from that of projects that are implemented to promote rural development.

Implementation of the EGS scheme also needs many improvements. Changes are required in the management of EGS projects as well as in labor discipline and productivity.

There is need for considerable improvement in the management of EGS projects. These projects are highly labor intensive. Techniques of management have to be devised to handle such projects effectively. EGS projects usually have great uncertainties attached to them. They may have to be started at short notice. The number of workers on them at any time may vary greatly as compared with other projects. They may have to be closed down for lack of workers when they are far from complete.

For these reasons, the programming required for such projects is different from that required for normal projects. Different techniques of management are required to handle these differences. Different systems, arrangements and procedures may have to be devised for the purpose and put into place. Provision must also be made for training of supervisors and managers. It would be useful to associate management consultants with senior administrators of the scheme in framing such systems and arrangements and developing the principles on which programming should be based.

With respect to implementation, important changes are also required on the side of labor. The EGS no doubt provides nothing less than a guarantee of employment, but it must be recognized that what it provides is nothing more than a guarantee of employment. Those who are employed must work.

There is, therefore, need to strengthen labor discipline and to take steps to improve the productivity of labor on these projects. A political commitment at the highest level to the continuation of the scheme should be accompanied by a similar commitment to ensure that work on the scheme effectively contributes to the creation of needed rural assets.

If these suggestions are implemented, additional costs will be incurred in collecting and analyzing data, in planning more thoroughly for the scheme and for the economy, in formulating a sufficient number of useful projects for each of the rural areas of the state, in buying the additional inputs needed to make such projects effective, in developing management techniques and systems, and in training supervisors and managers.

However, these additional costs will all increase the effectiveness of the basic expenditure on the scheme (and even on development activity generally) to a great extent and will thus more than pay their way.

These suggestions may also face political opposition. This will arise mainly from the mistaken notion that as large a proportion of total EGS expenditure as possible must be spent on wages paid to unskilled labor. This notion must be revised, given the powerful contribution that the additional non wage expenditure suggested makes to increasing the long term effectiveness of the scheme.

Stronger opposition may have to be faced to the suggestions regarding improvements in labor discipline on EGS projects. Opponents must be convinced that those who are employed on the scheme must work as hard and as well as in other employment. The scheme guarantees employment, not charity or free handouts. Besides, the wage paid under the scheme is now the minimum wage.

Opponents of these suggestions must be made to see that the waste of the large resources spent on the scheme cannot be countenanced in a

resource-scarce economy. They must see that the only alternative to the suggestions made is gutting the scheme of its crucial features or even abandoning it altogether. The suggested improvements are, therefore, in the best interests of the beneficiaries themselves as much as of the state as a whole.