

INDUSTRIALIZATION AND PUBLIC WORKS FOR LABOR ABSORPTION*

By

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From an attitude of general complacency about the employment problem in the past, development economists, other social scientists and even policy makers are increasingly being awakened by the accumulating evidence of heavy unemployment and underemployment existing at present and showing unfavorable trends in most developing countries. A natural accompaniment to the increasing number of unemployed and underemployed is the growing incidence of poverty in the affected households in the midst of an already low income economy. In view of such direct relationship between poverty and labor force underutilization it hardly needs justification to assume that the generation of productive employment would be an effective measure in the battle against widespread poverty afflicting most developing economies of Asia at this time. Indeed, poverty, however measured, lies at the heart of the employment problem, the conventional measures of unemployment and underemployment being only imperfect indicators of the magnitude of the employment challenge facing these countries.

In discussing employment promotion policies, it would be useful to distinguish at the outset between long-term and short-term policy measures. Certain policy prescriptions to remedy the employment problem are in the nature of long-run solutions aimed at providing a reasonably sound basis for sustained employment generation in the future. Where the pattern of economic development has acquired, for instance, a strong bias against the use of labor in production, policy measures might be devised to effect a change in the economic environment and set the economy on a new development track, hopefully combining a fuller utilization of the labor force and a rapid rate of growth of national output.

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On the other hand, there might be political and social pressures to mitigate the severity of the employment problem in the short run, in which case policy measures yielding immediate employment benefits would be appropriate. It is not easy of course to indicate precisely the degree of unemployment and underemployment warranting classification as an emergency case. In any event the point needs to be recognized that any short-term approach to the employment problem should be consistent with and if possible also contribute to the long-term objective. We shall return to this issue later on.

It seems generally agreed by now that a rapid growth of output does not necessarily bring about a high rate of employment generation. However, one would also admit that sustained labor absorption can be achieved only in the context of a growing economy. Given the currently low levels of per capita income among most Asian countries, it is obviously desirable that employment creation policies be made compatible with rising national product. These considerations would seem to imply the necessity of a development strategy aimed at exploiting possible complementarities between output growth and employment generation. Although trade offs between these two policy objectives may not be avoided (especially in the short run), it is frequently the case that the elimination or even a reduction of existing biases in the economy against labor absorption leads to an even better climate for output expansion. The identification of these factors inhibiting the growth of both employment and output is critical, I would think, to the solution of the employment problem in the long run.

The Philippine experience provides an excellent case study to examine some causes and possible remedies to the severe underutilization of the labor force in present-day less developed countries. It may be helpful to give a brief statement of the major points to be made below following the presentation of certain dimensions of the Philippine employment problem.

The first hypothesis I will advance, which is shared by many students of Philippine economic development, is that postwar economic policy has generally biased the industrial structure toward import-dependent, regionally concentrated, large-scale industries that require in production relatively more capital than is appropriate given the country's resource endowments. At the same time the comparative advantage in labor-intensive manufactures for export failed to be exploited due to the neglect of industries not oriented toward the displacement of imported consumer goods in the

domestic market. The consequence has been a disappointing rate of labor absorption in the industrial sector despite a fairly respectable growth performance of the economy.

What would seem necessary for a national employment-promotion strategy, and this is my second major point, is the correction of policies responsible for the distorted incentive structure such that industries with substantial potential for employment generation are given encouragement to grow more rapidly. In particular, two classes of industries, not mutually exclusive, need positive promotion at this time. These are the small- and medium-scale industries and manufacturing industries producing for the export market. Their present underdeveloped state bears witness to the effective discrimination in resource allocation against them in the past. Without tapping the vast labor absorptive capacity of production in export manufactures and in small- and medium-scale industries, it is difficult to imagine a self-sustained acceleration of output and employment in a small, open economy like the Philippines.

Finally, I would like to examine in the last part of this paper some short-term measures to alleviate the severity of the employment problem in the Philippines. Among the implementable short-term instruments for employment creation, labor-intensive public works projects will be argued to have strong compatibility with the long-run employment promotion strategy. The social benefits to be derived from a well-administered, rural-oriented public works program would appear substantial in the Philippines, as in other developing Asian countries where existing infrastructure facilities are frequently found to be inadequate relative to current needs.

SOME DIMENSIONS OF THE PHILIPPINE EMPLOYMENT PROBLEM

Table I gives some idea of the extent of unemployment and underemployment in the Philippines for the period 1956-1968. The estimates are based on the results of sample surveys of households regularly conducted by the Bureau of the Census and Statistics, which follow the ILO-recommended labor force and employment concepts. They indicate averages of over 7 per cent of the active labor force openly unemployed and 23 per cent underemployed during the period. As shown in the last line of the table, the number of openly unemployed has increased over the years at an average annual rate of 2.14 per cent; "visible" underemployment has gone up by 2.13 per cent; and "invisible" underemployment by 11.5 per

TABLE 1: Employment, unemployment and underemployment
in the Philippines, October 1956-1968*

Year	Open Unemployment ¹ (1000s)	(% of L.F.)	Visible		Invisible Underemployment ³ (1000s)	(% of L.F.)
			Underemployment ² (1000s)	(% of L.F.)		
1956	859	10.0	1,046	12.2	511	6.0
1957*	630	7.1	—	—	—	—
1958	647	7.2	991	11.0	719	8.0
1959	540	5.9	871	9.6	608	6.7
1960	577	6.3	1,038	11.4	790	8.6
1961	618	6.4	1,178	12.1	1,010	10.4
1962	662	6.5	1,211	11.8	1,249	12.2
1963	469	4.6	1,217	11.9	1,642	16.1
1965	663	6.2	1,001	9.3	1,489	13.8
1966	821	7.0	955	8.1	1,730	14.7
1967**	909	7.7	—	—	—	—
1968	900	7.9	1,193	10.5	1,609	14.2
Ave. Annual Growth Rate (per cent)	2.14		2.13			11.5

SOURCE: Various issues of the *BCSSH Labor Force Bulletin Series*

- NOTES:
1. Persons without work and actively seeking it are *openly unemployed*.
 2. Persons working less than 40 hours a week and seeking to work longer are *visibly underemployed*.
 3. Persons working 40 hours or more a week and seeking to work longer are *invisibly underemployed*.
- *Available data on later years are deemed not comparable with 1956-1968 series.
**Questions on underemployment were not taken in the October surveys of 1957 and 1967.

cent. In regard to the latter, one may wonder why persons who are supposedly working full-time (40 hours a week) will seek to find additional work. The only reason would seem to be that the earnings from their present employment are inadequate relative to their needs. The observed rapid increase of the "invisibly underemployed" may perhaps be taken to mean a deteriorating real income over time of an increasing number of already employed workers.

Indeed, it is possible to document from other sources the downward trend in real earnings of Filipino workers generally. The Central Bank real wage rate indices for skilled and unskilled workers in industrial establishments in Metropolitan Manila have decreased substantially: from base year 1955 the wage rate index for skilled workers has dropped to 70.7 in 1972 and that for unskilled workers to 85.0. The non-agricultural indices of average monthly earnings of salaried employees and wage earners throughout the country, prepared also by the Central Bank, indicate increases of 67.9 and 81.7 percentage points, respectively, from 1955 to 1972; however, such increases in nominal earnings are not very meaningful in view of the much higher increase of 97.7 percentage points in the consumer price index during the same period.

Other dimensions of the Philippine employment problem may be briefly mentioned here. For one, the uneven regional development has created a wide gap in the employment and income opportunities across regions. This is reflected in the distribution of mean and median family incomes by region as presented in Table 2. For instance, the 1971 mean family income in Greater Manila is seen to be more than three times that in the Cagayan Valley region. What is more, incomes in the richer areas have increased relatively faster, at least until 1965.

Estimates of urban and rural real wage rates for 1954 to 1963 have been made by Hicks and McNicolls /6/ for unskilled workers and they are reproduced in Table 3 below. The very large differential favoring the urban workers is quite evident; throughout the period the average rural worker has earned less than half the real income of his urban counterpart. Direct measures of rural-urban household incomes are in fact available from the Family Income Surveys conducted by the Bureau of the Census in 1956, 1961, 1965 and 1971. The source of income however is not provided and hence wage earnings in urban and rural areas cannot be compared. We can only adduce as evidence of the lower earning capacity of rural household

TABLE 2: Mean and median family incomes, by region:
1956, 1961, 1965 and 1971

Region	1956		1961		1965		1971	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Greater Manila	4255	2691	4790	3004	6590	3720	7785	5202
Ilocos Provinces	1292	863	1242	918	1633	1155	3299	1814
Cagayan Valley	1273	924	1189	813	1322	975	2390	1652
Central Luzon	1509	1122	1713	1264	2595	1984	4127	3118
Southern Luzon	1504	1096	2092	1486	3025	2139	4332	2960
Bicol	1084	730	1501	936	2024	1422	2784	1874
Western Visayas	1303	887	1614	1009	1990	1458	3206	2332
Eastern Visayas	928	614	1166	825	1622	1167	2548	1652
Northern Mindanao	1178	804	1560	1147	2004	1670	3062	2186
Southern Mindanao	1146	763	1403	842	2342	1468	3577	2549

SOURCE: *BCS Family Income and Expenditures Surveys* and BCS Special Release No. 139.

NOTE: Slight changes in the regional classification were introduced in the 1965 survey.

heads the survey finding that the ratio of mean rural income to mean urban income has remained constant at .40.

PATTERN OF INDUSTRIAL DEVELOPMENT

It is a realistic assumption to make that most developing countries have aspired to industrialize rapidly during the post-war period. The reasons are not hard to find. One is that the resources to cooperate with labor are easily augmentable in industry in the form of reproducible capital; this would seem a major consideration among countries with visibly vanishing agricultural frontiers. Moreover, there is ample evidence of strong inter-industry linkages in manufacturing so that significant spill-over effects in the other production sectors of the economy can be expected with an expansion in industrial output. Finally, on the demand side, it is well known that consumption patterns favor manufactured goods over time, in view of their high income elasticities.

The postwar development experience of the Philippines typifies those of other Asian and Latin American countries, especially with regard to the direction of economic policy adopted. While the thrust of policy incentives was undeniably toward the encouragement of manufacturing, such benefits -- particularly those bearing on factor use -- were not accorded uniformly to the different industries. A limited segment of the manufacturing sector was the principal beneficiary, composed of industries producing import-substituting consumer goods. In effect, domestic industries engaged in the production of intermediate and capital goods and those catering to the export market were discriminated against.

Import substitution as an industrialization strategy may be said to have shaped Philippine industrial development throughout most of the postwar period. In the 1950s the existing controls on imports and foreign exchange created a strong bias toward the domestic production of substitutes for finished industrial consumer goods (imports of which were considered immaterial), while imported raw materials, intermediate goods and capital goods were made available at artificially lower prices /5/. In the 1960s the same incentive structure was perpetuated by a highly protective tariff system which maintained the qualitative biases of the control system against backward integration and export expansion (cf. below). Other economic policies also contributed to the distorted incentive structure, e.g., the overvaluation of the domestic currency, high wage policy and low interest rate policy.

TABLE 3: Estimates of urban and rural daily wage rates
of unskilled workers, 1950-1963
(pesos, in 1955 prices)

Year	Urban wage ¹	Rural wage ²
1954	4.98	2.73
1955	5.18	2.75
1956	5.12	2.38
1957	4.98	2.39
1958	4.84	2.37
1959	4.93	2.33
1960	4.74	2.28
1961	4.78	2.24
1962	4.65	2.19
1963	4.64	2.23

SOURCE: Hicks and McNicoll [6], p. 91

NOTES: 1. Wage rate of "common laborers" in industrial establishments in the Greater Manila area.

2. Weighted average of farm wage rates in nine regions adjusted for payments in kind.

One significant consequence of an industrialization policy biased toward import substitution in industrial consumer goods at the finishing stages is the heavy dependence on imported raw materials and intermediate goods. Assembly and packing operations constituted the bulk of the new production activities, adding little to manufacturing value added and even less to industrial employment in view of the absence of strong interindustry linkages normally expected from manufacturing industries. It is not surprising to find, therefore, that the contribution of the manufacturing sector to total employment in the Philippines has remained virtually constant at about 12 per cent since the mid-1950s /2/.

The nature of postwar industrialization policy has also produced an inward orientation of the emerging industrial structure which effectively placed a limit on the size of the market for the products of the favored industries. The sudden profitability of manufacturing investment as a result of the opening of the protected domestic market serves to explain the initial spurt of rapid growth in the early 1950s, but which petered out just as quickly when the limits of the narrow market base were reached near the end of the decade. The inability of the import-substituting industries to compete in the foreign market reflects the inefficiencies in resource allocation and use spawned by the control system of the 1950s and the uneven protection structure of the 1960s. The result has been the widespread underutilization of installed capital in a large number of industries /1/.

Meanwhile, the relative bias in the incentive structure against export and backward integration obstructed the growth of industries which could have realized the country's comparative advantage as well as the economies of scale in producing for the world market. Industrial growth and the accompanying absorption of idle laborers into productive employment would not have been held back by the limited size of the domestic market, since the expansion of competitive export industries of a small country is unconstrained on the demand side.

The well-documented capital-intensive bias of the industrial technology adopted in the Philippines /1/ needs also to be mentioned. In the first place, the favored industries producing import substitutes frequently had no choice but use imported technologies of high factor specificity. Moreover, even where there is scope for factor substitution, the artificial underpricing of capital relative to labor created by the currency overvaluation, low interest

rate and high wage policies resulted in the inappropriate choice of production techniques. For the same reason the natural development of intermediate technology using indigenous materials did not materialize which could have overcome the problems associated with the use of technologies imported from the economically advanced countries.

Two related consequences of the postwar industrialization policy are the regional concentration of industries and the underdevelopment of the small- and medium-scale industries. Considering that the favored industries relied heavily on imported raw materials and intermediate products, there was a strong inducement to locate plants near the source of supply, i.e., Manila, the principal port. Tax and credit favors were moreover obtainable from the financial and government institutions in Metropolitan Manila so that even resource-based producers in the outlying regions had to maintain large offices there. These factors have contributed to the uneven economic growth among the regions of the country, preventing a wider sharing of the benefits from the development of the national economy. The data presented earlier on the wide disparities in regional per capita incomes confirm the severe geographic imbalance in the postwar economic growth of the Philippines.

Allied to the problem of regional concentration is the failure to promote small- and medium-scale industries. It is certainly easier for the small producers to establish themselves and meet the needs of the local market in the countryside, where the factory products of the urban industries may encounter problems of distribution. The expansion of small- and medium-scale industries could have reduced disparities in regional incomes and opportunities, raising lower incomes which in turn would increase the demand for locally produced consumer goods with high labor content. In contrast, the observed imbalance in regional income growth has contributed to a further deterioration of employment prospects in orienting the market for industrial goods to a limited number of high income households whose consumption pattern does not favor the products of local industries using indigenous material inputs.

The underdevelopment of small-scale manufacturing in the Philippines is a story of official neglect. Only very recently has some real assistance to the small- and medium-scale industries been extended, but which still do not offset fully the advantages being enjoyed by large industry. The discrimination against small producers in the access to resources took many forms. In credit availment, both

private and government financial institutions have little to show by way of accommodating applications from the small enterprises for either short-term or long-term loans. The findings of the recent survey of four small-scale industries in the Greater Manila area by the ILO employment mission revealed a very pronounced difficulty to obtain credit from institutional sources. This is in part due to the greater risks of lending to small enterprises as normally viewed by banking institutions, compounded by the inability of the former to accomplish satisfactorily the required application forms. In part it is also attributable to the national policy of low interest rates which only served to direct the resulting limited supply of loanable funds for rationing to the big businesses. Under such circumstances the small firms had no recourse but borrow from the unorganized money market at interest rates far higher than the legal ceiling rates.

In the area of technical assistance, large industry has been the beneficiary of technology transfers from the advanced countries through licensing arrangements or equity participation by foreign firms fostered by government policy. Small industries on the other hand have had to utilize antiquated, low-productivity technology the improvement of which little government support has been provided. Indeed, the development of intermediate technology for the small- and medium-scale industries has found no encouragement until very recently.

Various other benefits accorded industrial enterprises actually have fallen mainly on large industry. Thus, subsidies in the use of capital, e.g., currency overvaluation, investment incentives in the form of tariff-free importation of equipment and machinery, and accelerated depreciation policy have had adverse effects on employment on two counts, namely, that they encourage the adoption of capital-intensive techniques in a given industry and that they favor large enterprises which are themselves inherently capital-using.

TWO COMPONENTS OF AN EMPLOYMENT-PROMOTING DEVELOPMENT STRATEGY

It would seem evident from the preceding discussion that a fundamental shift in the pattern of development is necessary to attain both a satisfactory rate of employment generation and a reasonably high growth rate of national output. This could be achieved by rationalizing the distorted incentive structure that has persisted throughout most of the postwar period. Industrial subsidies and other benefits should be directed to the small- and medium-scale

industries and the export-oriented industries to remove the regional concentration of industries, reduce the heavy dependence on imported material inputs and eliminate the capital-intensive bias of the industrial structure inherited from the past.

The development of small- and medium-scale industries is a matter of urgent need at this time in the Philippines. The potential for labor absorption in this neglected sector is simply too large to remain unexploited in any effective employment promotion program. Consider the present size structure of the manufacturing sector. Large establishments employing 100 or more workers account for more than four-fifths of total value added in manufacturing but contribute no more than one-fifth of total manufacturing employment /2/. This implies that the bulk of industrial workers are in small- and medium-sized enterprises, where labor productivity is at this time (as in the past) very low. The comparative growth of manufacturing employment by firm size is also quite revealing. Establishments employing 5-19 workers have expanded employment by an average annual rate of 2.6 per cent from 1956 to 1969, while those with 20 or more workers have shown employment gains of 6.2 per cent per annum during the same period /2/. The relatively high employment growth rate in the latter group is due to the rapid output expansion of large industry which benefited from the industrialization policies adopted. However, because of the very low share in total manufacturing employment, it did not represent a significant contribution to industrial labor absorption.

There is every reason to think that the employment generating capacity of the large-scale manufacturing subsector is even more limited at this time. The recent ILO employment mission, for example, has concluded that large industry in the Philippines is already fully developed for a country with such low per capita income. At best it could expand output at rates comparable with past growth; even so, the present highly capital-using character of large-scale industry would seem to preclude a very substantial amount of labor absorption.

The brunt of industrial employment generation in the new development pattern must be placed, therefore, on the small- and medium-scale industries, as yet an untapped source in the Philippine context. Their successful development would mean a significant reduction in underemployment among already employed workers in small-scale manufacturing and increases in the number of persons employed, thus improving the income prospects of a large number of

laborers who are unable to gain access to the modern production sectors of the economy.

Granting that the expansion of small- and medium-scale industries is necessary for employment creation, would it entail a sacrifice in potential output? In answering this question, one has to make an evaluation of the comparative efficiencies in the use of scarce resources in manufacturing by size structure. The recent ILO employment mission has done something along this line, measuring average capital productivities of 59 4-digit I.S.I.C. manufacturing industries by the ratio of value added (adjusted for effective protection) to the replacement value of capital. The interesting finding is that industries easily identified as small or medium-scale and highly labor intensive show much higher values of capital productivity relative to the average value for all industries. Recalling moreover the policy biases that operated against small- and medium-scale industries, one can reasonably argue that their active promotion and support at this time would induce, rather than prevent, a higher rate of growth of industrial output.

A general policy toward output expansion and productivity improvement in small- and medium-scale industries is therefore warranted. Such policy would call for a greater proportion of industrial resources going to the smaller producers in relation to previous allocations and making more effective the various forms of institutional assistance which by the nature of small-scale industries are necessary for their successful development. Credit availability and technical assistance would be leading areas where the government could provide useful help. The ILO mission, for example, has recommended the accommodation of loan applications from small- and medium-scale industries through liberal terms with respect to collateral requirements while placing more emphasis on the applicants' ability to pay back the loan. The mission has also recommended the establishment of regional centers to provide technical assistance to small- and medium-scale industries relating to production management, product quality, marketing, and the generation and dissemination of appropriate technologies. Formation of industrial cooperatives among small-scale producers to realize economies of scale in input purchases and the establishment of industrial estates to meet the common infrastructure needs of particular industries also merit encouragement.

On the demand side it is necessary to strengthen the links of the

small- and medium-scale industries to the purchasing sectors. The active promotion of the demand for locally produced, labor-intensive consumer goods is desirable to offset at least partially the enormous advertising to influence public taste toward mass-produced commodities undertaken by local distributors and foreign subsidiary firms, not to mention the already existing strong bias toward Western-style consumption patterns among the rich. In intermediate goods production, the large companies engaged in the manufacture of machinery and consumer durables might be encouraged to avail of the low wage labor in smaller-sized firms to produce components, parts, accessories and sub-assemblies. Such links between the large and small establishments through subcontracting have benefited Japanese industrialization and are still strong even at this time /4/. Finally, the foreign market also offers a potentially significant avenue for output expansion among small- and medium-scale producers. A proper integration of the network of small establishments producing high quality products, innovative ideas on product design and government assistance in marketing would be necessary for a successful performance in the export field.

As already mentioned, the encouragement of export-oriented industries is a critical policy area in which little has been done in the Philippine context. For any small, open economy saddled with heavy unemployment and underemployment, economic prospects should be favorable on industrial exports to provide the long-run basis for output growth and labor absorption. On both counts, however, export-oriented manufacturing industries in the Philippines have not performed very well in the past. During the period 1954-1969, for instance, the average growth rate of manufactured exports in U.S. dollars at constant prices (weighted by their share of total exports in 1965) is 7.6 per cent /3/. This is low compared to the export performance of less developed countries in general which according to Lary /10/ showed an average annual rate of increase in labor-intensive manufactured exports of at least 11 per cent at constant prices in the period 1953-1965. It is extremely low when compared with the phenomenal rates of export expansion in the 1960s experienced by South Korea (38.9 per cent) and Taiwan (23.1 per cent).

Employment generation in Philippine export industries was hindered not only by the relative stagnation of output but also by the low labor absorptive capacity generally exhibited in the past by these industries. One would have thought that the labor surplus character of the Philippine economy will make it comparatively

advantageous to export labor-intensive goods. There is empirical evidence, however, that the relatively more labor-using industries have had lower rates of export growth, at least from 1954 to 1969 /3/. This is attributable again to the general policy bias toward capital-intensive, import-substituting industries which effectively discriminated against the remaining classes of industries.

Rates of effective protection have been estimated by Power /12/ for industries in the Philippines producing import-replacing consumer goods, intermediate goods, capital goods and exports. His findings reveal that import-substituting industries producing consumer goods have enjoyed a very high rate of protection, while export industries are protected the least, if at all. The implication is that some firms in the former category are existing simply because the heavy protection shields them from being economically nonviable. Clearly, they are inefficient users of the economy's scarce resources, which would have greater social productivity if utilized in the export industries. Such resource reallocation would raise overall efficiency in resource use and presumably enhance the growth orientation of the industrial structure. This can be achieved by narrowing the gap between the protection levels accorded import-competing consumer goods industries and those for the export-oriented industries. Positive promotion measures to offset fully the relative disadvantages of export production would also be necessary, as is being done since very recently by the Board of Investments through its Export Priorities Plan. At any rate it is difficult to imagine that rapid growth of manufactured exports will take place in the Philippines without doing away with the penalties associated with exporting or the various subsidies conferred on consumer goods producers catering only to the domestic market.

SHORT-TERM EMPLOYMENT PROMOTION SCHEMES

It would be unrealistic to assume that the rapid expansion of manufactured exports and of the small- and medium-scale industries can take place overnight, considering the necessity of reforms in economic policy and the associated institution-building in implementation. There is good rationale, therefore, in considering short-term remedies to the employment problem in the Philippines, especially since the projections in the current decade do not indicate any tendency toward substantial alleviation.

The literature on short-term employment creation is heavily oriented to national public works programs, which represent,

according to a recent ILO paper, "the widest and most promising field for action" /8, p. 3/. Two other types of employment promotion schemes are discussed in the paper, *viz.*, employment agreements and the utilization of idle industrial capacity. The first is more commonly used in African countries than anywhere else, the 1964 and 1970 Tripartite Agreements in Kenya as studied in depth by the 1972 ILO employment mission there being the most interesting examples. The evaluation of the 1970 Agreement has been that the provisions were helpful in raising the short-run level of employment, but that certain unfavorable effects were also induced (e.g., preference for overtime over hiring of new workers and the adoption of highly capital-intensive technology) such that the long-run employment effect has been deemed even negative.

While it is true that there is substantial underutilization of existing production facilities in most developing countries, policy measures to improve levels of industrial capacity utilization that are effective and inexpensive for all industries could be difficult to define. The causes of capacity underutilization vary across industries and only a detailed examination of situations in individual industries would provide the basis for policy formulation. Moreover, the repercussions of output increases in certain industries due to higher utilization rates which need to be considered in the wider context of interdependent markets. There is as yet only the beginnings of serious study in the Philippines on the role of policy in inducing greater capital utilization. Any suggestions relating to the fuller utilization of existing industrial capacity for short-term employment creation would therefore be premature.

By contrast, in the area of public works policy, a large amount of experience may be said to have been gained over the postwar years. The outstanding example is the Emergency Employment Administration in the early 1960s which was created by Congress with an appropriation of 100 million pesos (equivalent to 50 million U.S. dollars at the time) to plan and implement an emergency employment program designed to create maximum employment opportunities in government-financed projects (mainly, public works).

The social benefits to be derived from a well-administered public works program in the Philippines at this time appear substantial in view of the character of the employment problem as described earlier. If it can be taken that labor-intensive projects and techniques are available (as will be argued shortly), then their implementation can help redress the uneven development that has characterized the

Philippine economy in the past. A strong case can therefore be made for more public works projects with emphasis on the rural sector and the less developed regions of the country so long as they pass standard criteria for project evaluation. Rural public works projects would facilitate agricultural development which together with the reduction in regional income disparities could stem the flow of workers migrating to the cities, helping to relieve also the observed chronic urban unemployment.

Public works projects for short-term employment creation would also be compatible with the new directions of development suggested earlier. The processes of export expansion and the dynamic growth of small- and medium-scale industries would entail a regional dispersion of economic activities reaching out to the countryside. New infrastructural facilities would be required that were not developed previously on account of the concentration of industries in the Greater Manila area.

It is necessary to examine first the extent to which public works projects are capable of generating employment. As is being increasingly recognized in many developing countries /9/, many of the projects particularly suitable for implementation in a short-term public works program provide wide scope for technological flexibility. We can only describe here briefly two areas in public works in which recent pilot studies in the Philippines indicate considerable promise in making the existing methods more labor intensive and in reducing total project cost (cf. /4/).

In highway construction, use of the pilot labor-intensive method as applied in the six-kilometer section of a Central Luzon road shows a reduction in project cost by about 20 per cent compared to using the standard equipment-intensive technique, in addition to generating about 16 times more employment. In levee work, the technical acceptability and economic superiority of the labor-intensive method has been demonstrated in a pilot flood control project involving the restoration of about 750 lineal meters of a washed-out levee (as a result of the July-August 1972 floods). Carabaos, locally made carts and men replaced imported equipment and machinery in carting and spreading the fill, watering and rolling without sacrificing the required degree of compaction.

About one-third of the planned river control projects in Central Luzon are estimated to consist of constructing levees. If implemented using labor-intensive techniques, these projects would

generate about 4 million man-days of work. Over the two years for which the projects are planned to be completed by the Department of Public Works, rough estimates of 10,000 men, 4,000 carabaos, 240 water carts and 240 rollers will be required from local sources. Discussions by planners of the Department made with barrio captains and farmers in the concerned areas reveal that such resources would be available without difficulty except for the manufacture of water carts and rollers which needs to be programmed. This is perhaps suggestive of the magnitude of the employment problem in the rural areas generally.

The systematic inquiry on labor-intensive methods in public works projects has been institutionalized within the Department of Public Works and it appears reasonable to expect that cost-effective, less equipment-using methods will be developed soon for other public works activities. The employment generating capacity of a short-term public works program would therefore not be called into question given the wealth of good intentions in the Department.

What would be the scale of an effective public works program for short-term employment creation? It is of course impossible to state precisely what proportion of the unemployed and underemployed should be absorbed in the public works program in order to "take the steam out" of the employment problem. In the Philippine context, previous calculations of the present writer suggest that, under certain assumptions, the reduction of fulltime equivalent unemployment by about 35 per cent constitutes a feasible target for an effective short-term employment creating public works program. This would entail in 1975 an estimated total outlay of 4.5 billion pesos on the assumption that labor-intensive methods are used in executing the infrastructure projects. Such amount exceeds by 1.3 billion pesos the planned infrastructure expenditures of 3.2 billion pesos in 1975 (cf. /10, p. 81/).

The term "feasible" is used here rather loosely in the limited context of budgetary and administrative considerations. There would perhaps be little disagreement if it is asserted that the important obstacles are more administrative than financial. The previous experience with the Emergency Employment Administration (EEA) in the early 1960s would attest to that, as well as the various evaluation studies on national public works programs for employment promotion in other countries /8/. In embarking on a similar program at this time, it may be useful to learn from the lessons provided by the EEA with respect to the organizational and

administrative problems that it faced.

First and foremost is the overlapping of the EEA's function in project execution with other government agencies, particularly the Bureau of Public Works. As a consequence, the EEA was constantly faced with the lack of enthusiasm, if not resentment and hostility, of the cooperating specialized agencies. While there are clear benefits from a centrally planned program of labor-intensive projects in terms of the proper coordination with national plans and policies, a decentralized execution of chosen projects would seem less vulnerable to the administrative difficulties as the EEA had experienced. The implementing function vested in the EEA could have remained with the specialized agencies, thus avoiding the administrative overlapping and also the inefficiency and waste that resulted from EEA's lack of experience in various fields.

The rotation system of hiring workers was adopted by the EEA with a view to maximizing the number of persons employed in any given project. If underemployment is the problem affecting the rural labor force, employing workers on rotation basis would seem ideal. It is not without limitations, however. These "include: lack of continuity in the occupation, absence of stimulus for the worker and, in particular, the reduced possibility of his (the worker's) acquiring a useful vocational skill and subsequently regular employment" /8, p. 16/. Moreover, a rural-oriented program of labor-intensive projects has to be undertaken in the off-season so as not to draw workers away from productive activity in agriculture. This means that agricultural laborers would really be idle most of the time, which makes the rotation system less appealing. Finally, the additional administrative burden of supervision and accounting needs to be considered, especially in view of the serious bottleneck frequently encountered in national employment promotion programs caused by the lack of supervising and accounting staff /8/.

One can only hypothesize on the extent to which the organizational and administrative problems of EEA has contributed to the large number of programmed projects that were abandoned, suspended or even not started. In public works, for instance, only 235 of the 2,185 projects programmed for implementation during FY 1962-63 and FY 1963-64 were reported to have been completed. The inefficiency and waste in the use of EEA resources might have resulted also from the inadequate planning of projects. Thus, "nearly 80 per cent of the total number of public works projects programmed by the EEA were on road construction (which is technically the

simplest and easiest to execute especially for feeder roads, though economically possibly the least productive under certain conditions) and too little on irrigation and river control" /7, p. 66/.

The now widely-accepted evaluation of the EEA program is that its impact has been mainly in the creation of temporary employment. The lasting economic benefits from the EEA projects were meagre in terms of the infrastructure facilities actually constructed. Any plan at this time to adopt a similar program to serve the dual purpose of short-term employment generation and long-run economic growth should avoid the organizational, planning, and administrative constraints under which the EEA operated which effectively jeopardized the long-term interest.

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