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together will facilitate better planning of material inputs production in the country. And this will be the real planning of resources. The production norms fixed during the previous year may be utilized as a guide-line for obtaining same or more production in the next year and so on. Along with this a scheme of proficiency bonus would also be introduced which may be given on the comparative performance of present production over the previous year's yield. The norms would be partially revised each year in accordance with the changes in land development programme, cropping pattern, and the changes in technology affecting the production potential. One of the advantages of fixation of production norms is that these norms will be a guiding factor for the cultivators in raising the productivity as compared to the earlier year's norms. To realize this, fullest utilization of existing resources as well as the available new resources, with the intention of competing in proficiency bonus scheme for better performance in farm production is essential. The scarcity of new resources can be avoided or in other words, their additional demand can be met only if their production is increased several fold by raising the capacity of the existing industrial units,⁵ by establishing more such units and even by liberalizing imports in their favour. This will necessitate a shift in official policy.

THE PROBLEM OF LAND TENURE AND ECONOMIC GROWTH IN OVER-POPULATED COUNTRIES*

GYANESHWAR OJHA

*Agro-Economic Research Centre
Visva-Bharati, Santiniketan*

THE PROBLEM

The common economic characteristics observed in over-populated economies are that land resources are limited in relation to agricultural population and the magnitude of unemployment is quite high in disguised form. Due to critical land-man ratio the marginal productivity of land is very low—in certain cases it is zero. The non-agricultural sector is not developed to such an extent as to absorb the surplus labour force depending on agriculture. The economic approach to the problem centres round the key point of achieving full employment, maximizing agricultural production and creating necessary conditions for the long range economic growth. To ensure continuous growth of the economy it is desirable that "output should increase more than in proportion to employment or in other words, output per worker should increase faster than the wage rate with the result of continuous increase in the surplus per worker."¹

5. In case of high yielding varieties of seeds and hybrids, by bringing more area under foundation and hybrid seeds cultivation.

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1. G. C. Mandal : *Studies in the Problem of Growth of a Rural Economy*, World Press, Calcutta, 1961.

It is now a well-established fact that economic factors that govern growth are shaped by formal social, political and economic organizations prevailing in a particular country. This limits the application of some of the central propositions of growth theory to the analysis of the problems and process of the development of labour surplus capital-poor economies.

The most significant characteristic of an under-developed economy is the contrast in economic organizations that exists between the modern capitalist sector and the traditional agricultural sector. The technologies used in the modern sector are capital intensive and as the size of this sector is small in relation to population, its capacity to create opening for productive employment is limited. In contrast, the household forms of production organization in agriculture characterized by variable technical coefficient of production has been absorbing continuously the additional labour. Thus, more work has been created on land for the excess labour force than what is dictated by the norms of productive efficiency.

EXAMINATION OF FEW CONCEPTS

Recently three different approaches regarding the possible agrarian structure in under-developed countries have been put forward by Harvey Leibenstein,² Georgescu Roegen³ and V. M. Dandekar.⁴ Leibenstein has approached the problem of disguised under-employment and unemployment in relation to land tenure from the point of demand functions and consumption functions. He assumed that even under capitalistic conditions and in an agricultural community made up of landlords and tenants only, it is in the interest of the landlords to employ labour beyond its marginal productivity. His arguments are based on the hypothesis that the average productivity (and the marginal productivity) of a group of men, apart from many other considerations, depends on their wages. He examines the wage-productivity relations in two ways: Firstly, between income and nutrition and secondly, between nutrition and productivity. So conceived, a higher wage rate is expected to bring in extra work effort by way of improvement in the nutritional level of the worker which in turn will increase the total output. On such assumptions he draws different marginal productivity curves for the different wage levels. The crucial point in Leibenstein's formula is that a higher wage rate (above subsistence level) will bring in extra work effort and thereby increase the total production sufficient enough to compensate more than what a landlord may have to pay as wage bills. As human effort cannot be increased beyond a particular level further wage increase will not bring in any extra work effort. Thus, the optimum employment level will be decided at the point where the total group output of the landlords is maximized at wage rate somewhere above the subsistence wage. Leibenstein further postulates that as there will be an apprehension of wage depression, seemingly due to competition from the virtually unemployed workers, the landlord will offer to employ the whole labour force in order to prevent the possible depression in the wage rate and still have larger total output.

2. Harvey Leibenstein : *Economic Backwardness and Economic Growth*, John Wiley and Sons, Inc., New York, and Chapman and Hall Ltd., London, 1957.

3. Georgescu Roegen, "Economic Theory and Agrarian Economics," *Oxford Economic Papers*, Vol. 12, No. 1, March, 1960.

4. V. M. Dandekar, "Economic Theory and Agrarian Reform," *Oxford Economic Papers*, Vol. 14, No. 1, March, 1962.

Leibenstein's approach appears to have very limited practical applicability as it is subject to so many conditions. He has overlooked the aspect of high degree of leisure preference of workers that exists in the rural sector. The increased wage incentive may not bring in any extra work effort. Moreover, the efficiency consideration may not influence the wage fixation policy of the employing farmer in under-developed economy when he visualizes the possibility of lowering the wage rate.⁵ Under these circumstances production cannot be maximized and the problem of unemployment will remain unsolved. The other weakness of Leibenstein's doctrine is that it does not give any solution regarding the disparity of income in the rural sector and ignores the welfare aspect of the community.

Georgescu Roegen has pleaded for the setting up of an agrarian organization based on individual holdings and supported by cottage industry. He considers the problem of peasant economy as to be primarily a population problem. He argues that "as agriculture is an intrinsically different activity from industry, it cannot develop on the principle of general economic theory." As a way out he suggests a dynamic approach to the problem, entirely a new theory for the peasantry which will be based on double negation—"not capitalism, not socialism." The theory is based on the assumption that a capitalistic type of land management will not provide the scope of production maximization through full utilization of labour force and hence, it will fail to create necessary condition for capital accumulation in the rural sector. The feudalistic character of the individual peasant holdings has the benefit of utilizing the available labour resources to its fullest extent because the degree of labour input will be governed not by the principle of profit maximization but by the consideration of production maximization. Labour inputs on such farms are utilized up to the point till no productive work is left undone on the farm. The underlying principle is that no factor should be left idle so long as there is scope for its utilization. As labour is the cheapest resource available in abundance it must be used to its fullest extent. Cottage industries are expected to provide extra employment and income opportunities. Under such an agrarian organization two objectives can be simultaneously realized : firstly, maximization of agricultural production and secondly, utilization of the unemployed labour force in the production process. It can however be pointed out that in spite of the feudal characteristic of individual peasant holdings, absorbing the entire labour force and the subsequent maximization of production, it will fail to create investible surplus for accelerating the process of economic growth. It is apprehended that the potential savings created by the so-called disguisedly unemployed workers will be eaten away through a higher marginal propensity to consume.⁶ The benefits of scale cannot also be reaped in such a type of agrarian organization.

Another argument against the creation of peasant holdings relates to the future withdrawal of the labour force to the non-agricultural sector. It is feared that the settlement of the agricultural population on the basis of peasants' holdings or some other similar arrangements will be the greatest bottleneck in the way of its eventual withdrawal to the non-agricultural sector and may dislocate the whole agricultural sector.

5. G. C. Mandal : *op. cit.*

6. Ragnar Nurkse : *Problems of Capital Formation in Underdeveloped Countries*, Oxford University Press, Oxford, 1953.

In recent years, it has been argued that agrarian reform in over-populated countries should be directed towards encouraging the formation of co-operative farms. But apart from its many advantages, such an agrarian organization, whether it takes the form of a collective farm or a joint co-operative farm, reduces the element of personal incentive so vital for production maximization. As there is no perfect method to measure the work performance of individual worker through which one could be properly rewarded, there is every apprehension of production to fall. It is claimed that the collective farm provides the necessary incentive to individual worker through payment of wages according to 'work hours' and 'performance.' But the whole question of incentive is to be organized on collective farms by 'others' whereas in case of ownership holdings the incentive is built-in itself. Further, as Dandekar has rightly pointed out, "in terms of the usual formulation, the co-operative organization brings to surface the unemployment which otherwise appears in the disguised form, in addition the co-operative organization also in fact reduces the employment if its decision in this matter is allowed to be governed by the considerations of marginal productivity."⁷ Neither joint co-operative farming nor any other similar land tenure organization is able to increase the land-man ratio. Experiences in some of the over-populated countries in Asia show that such agricultural organization has failed to provide a higher return to the family per unit of paid input and that they have also miserably failed in increasing average per acre productivity.⁸

One of the crucial aspect that the advocates of co-operative farming overlook while pleading it on the ground of benefits of scale is that these co-operatives would not be able to mechanize themselves in the near future. It will take considerable time before the vast cattle resources available in these countries are replaced by auto-machines and tools. Labour-saving devices will play little part for some time to come and technological advancement will have to adjust itself to suit these considerations. In most cases co-operative farming has been introduced without giving due regard to the availability of skilled human resources which lead to inefficient working and its virtual failure. Not only that, co-operative farming has been attempted without implementing proper land reforms, thereby rejecting the basic principle of co-operation that it succeeds among equals.

The other possible form of agricultural organization is state farming. State farming has one major advantage that it vests the control of factors of production in the hands of the government. The wide diffusion of income and savings as occurs in case of individual farming is trapped by the government if it decides to take up farming as a state enterprise. The state would exercise greater control on the total amount of capital accumulation and check the marginal propensity to consume through various economic methods so that no hindrance to economic growth is produced. But the practical applicability of state farming as a full-fledged business enterprise and its success is a doubtful phenomenon, specially, in view of its size. Apart from its organizational complications such agrarian institutional arrangement will hardly bring any immediate impact on the overall situation.

7. V. M. Dandekar, *op. cit.*

8. Raj Krishna, "Some Aspects of Land Reforms and Economic Development in India" in Walter Froehlich (ed.): *Land Tenure, Industrialisation and Social Stability*, The Marquette University Press, Milwaukee, Wisconsin, U.S.A., 1961.

Dandekar is opposed to both, individual peasant farming as well as co-operative farming. He opposes individual peasant farming on the ground that in spite of its feudal characteristics it fails to achieve the objective of optimum farm size. Small peasant holdings are not expected to create sufficient growth potentialities necessary for economic growth. Such an agrarian organization will not only create an impediment towards the future mobilization of the working force into the urban sector, but the diffusion of production units will make the question of food supply to the growing non-agricultural sector very difficult.

Through the pooling of land for joint production, farm size could be made to approach near its optimum level but in that case it will lose its feudal characteristic which is so vital for full utilization of the labour force. Such farms are generally managed on capitalistic principle where labour cannot be utilized beyond the point of its marginal productivity. His main emphasis therefore rests on creating such an organizational set up which will provide for an optimum size of farm (such optimum farms may be a region) on which the entire available labour force will be channellized in such a manner that necessary labour force is utilized in current production and the rest is diverted to capital works. There are certain categories of capital works which could only be undertaken by large production units. His advocacy for the optimum size of the production unit is from the point of the future requirements of the economy. On these considerations, he suggests "an agrarian organization of the agrarian sector in large units of land and population, feudal in theory, modern in technology and oriented to socialistic purpose.⁹ Management of such production units are expected to be governed not by capitalistic principles but by considerations of collective good. Achieving the optimum size of production and simultaneously utilizing the surplus labour force on capital works will no doubt create conditions for rapid economic growth. But the question is whether it is at all a feasible solution in the limiting conditions that prevails in over-populated and economically backward countries. It is wondered how the elements of feudalism, capitalism and socialism can be brought into operation in an enterprise to produce the best result. Synthesis if it can be achieved, is no doubt an ideal solution to all the ills. It is, however, expected that even on such hypothetical farms the problems of unemployment in some form will persist, specially on those large production units where the capital works potentialities may be limited. Unfortunately, Dandekar has not indicated how the conflicting formulas of production and distribution relating to different economic systems can be reconciled. In other words, it is not clear how the organization of the agrarian sector in large production units will achieve the tripple objectives of maximization of consumption stream through full capacity use of labour, acceleration of capital accumulation and equalitarian distribution.

THE WAY OUT

From the foregoing discussion it is clear that the theoretical construction put forward by Georgescu Roegen and Dandekar only set the stage but do not trace the process of economic expansion. What has been demonstrated is that neither feudalism and not even socialism can offer solution to the problem of over-populated economies. As such a new theory will have to be formulated to supply the key to the understanding of the problems and process of growth of these countries.

9. V. M. Dandekar, *op. cit.*

In the formulation of economic policy, such as land tenure organization, care must be taken to see that "such changes are socially feasible in terms of the codes of values, priority attached to the problem, concepts of reasonableness and practicability and habits of work of the citizen it is to affect."¹⁰ On such considerations the issue becomes a question of 'gradualism' or a minimum 'big push,' and should be decided under the limiting factors that exist in different over-populated countries. On the theory of 'big push' an agrarian organization on the pattern of communist collective farms may achieve the desired level of economic growth in the short period. In that case the whole political set-up may have to be changed against which there could be stiff resistance leading to internal chaos. In respect of countries falling back on the principle of 'gradualism' the problem of economic growth shall have to be tackled primarily through production maximization in the agricultural sector and gradual development of the non-agricultural sector for which the resources may also have to be found from sources other than agriculture. In all the under-developed countries there is scope for avoiding excessive capital investment in agriculture in its primary stage and at the same time for substantially increasing production through the application of technological developments, *i.e.*, use of improved seeds varieties, application of insecticides and pesticides, optimum utilization of fertilizers and improvement of traditional tools and implements.

Institutional improvements in the property interest influence the productivity of the cultivator and this increased productivity could play a vital role in the economic development of a nation. On economic as well as social and political considerations, 'family farm' appears to provide a desirable agrarian base with minimum conflicts. Such farms are supposed to be of 'standard size' which could be operated by the labour and resources of the family. From this point the problem immediately assumes the question of the redistribution of land through effective ceiling measures. The level of ceiling is to be decided on economic considerations and should take into account the question of efficient utilization of resources. There should be an upper limit on family holdings beyond which all land should be taken up for redistribution. The family holding could be calculated by dividing the total cultivable area by the total number of cultivating families entirely dependent on agriculture. Such holding may be called 'standard family farm.' Family holdings may vary according to the fertility and resources available in different regions. However, there is a need to fix the upper limit of such family farms even if the family size is large with a view to fix a limit on concentration of income and also with a view to obtain sufficient surplus land to convert the small holdings into standard family holdings. The net available surplus land should first be distributed in such a manner as to convert the small holdings into 'standard family holdings.' While doing so, the problem of sub-divisions and fragmentation should be tackled simultaneously. Those small farm families should be given preference in the distribution of land who agree to consolidate their holdings. It has been estimated that through the consolidation of holdings alone potential production could be increased by 25 to 30 per cent besides lowering the operational cost by 10 to 15 per cent.¹¹ The excess land if any left should be settled with landless families preferably on fixed rent in cash or kind.

10. W. Robert Parks, "Political and Administrative Guide-lines in Developing Public Agricultural Policies," *Journal of Farm Economics*, Vol. 33, No. 2, May, 1951.

11. Dennis A. FitzGerald, "Land Reform and Economic Development," in K. H. Parsons, R. J. Penn and P. M. Raup (eds.): *Land Tenure*, The University of Wisconsin Press, Madison, U.S.A. 1956.

The question may be raised whether this will not hinder capital accumulation. But it should be recognized that fixed capital stock remaining constant, increased supply of better variable inputs at low cost will be able to improve productivity significantly, specially in view of the very low level of technological improvement achieved in economically backward countries. The family farm will have the advantage of utilizing the resources in the best productive manner because the average farm size will improve to an appreciable level. The maximum utilization of labour resources and improved variable inputs on family farms is expected to create marketable surplus which is an essential aspect for capital creation in the countryside. Such farms are potentially capable (and willing) to actually perform the investment of additional capital or labour inputs to increase production and adjust rather more easily to modern production techniques.¹² The crucial aspect is that small self-operated family holdings have the advantage of eliminating the direct conflict between the desire for a high wage rate to give a reasonable distribution of income and a low wage rate to promote employment which is a necessary condition of production maximization and economic growth.¹³ Studies undertaken in under-developed countries suggest that if the imputed value of self-labour is excluded from the cost of production, net return per acre declines as farm size increases.¹⁴

The organization of land tenure system on family farms may leave a large rural population on land still landless for whom the avenues of employment are to be created in the non-agricultural sector both through the development of small scale industries and capital industries. Through a programme of rural works chalked out on priority basis the surplus labour could be diverted to capital works for which there exists huge potentialities in under-developed countries. Emphasis on the development of industries with labour intensive products will be of great help. Regarding the settlement of population on newly reclaimed lands there should be an entirely separate principle. These areas could best be utilized on the basis of long lease with the prospective settlers. The point of emphasis is not to create any further permanent rights in land.

Under the system of family farming also it is expected that some sort of tenancy will exist in respect of certain types of ownership like trusteeship, land of widows and army personnel, etc. The scope of this paper does not permit space to go into the details of this aspect except pointing out that some arrangements will have to be made to see that the tiller has the sufficient incentive to production and his rights are properly safeguarded. To provide production incentive it is suggested that a system of fixed rent either in cash or in kind should be adopted instead of crop sharing system.¹⁵ Short-term leasing system should be discouraged as it affects the farmer's inducement to invest in land and therefore affects the productivity adversely.

12. Rainer Schickele, "Obstacles to Agricultural Production Expansion," *Journal of Farm Economics*, Vol. 24, 1942.

13. J. E. Meade, "Mauritius, A Case Study in Malthusian Economics," *The Economic Journal*, Vol. 71, No. 283, September, 1961.

14. Raj Krishna, *op. cit.*

15. For more detailed discussion on the theoretical construction of this approach see Charles Issawi, "Farm Output under Fixed Rents and Share Tenancy," *Land Economics*, Vol. 33, 1957, pp. 71-77.

The success of the organization of the agrarian structure on the basis of 'standard family farms' as means to promote economic growth in the over-populated countries will depend largely on many other 'follow up measures,' specially related to control of consumption and supply of improved variable inputs. Trade in foodgrains, at least in its primary stage, may have to be regulated by the government itself. Organizations such as service co-operatives dealing primarily in marketing, credit and supply of improved variable inputs could play a vital role both in augmenting agricultural productivity and pooling out the agricultural surplus thereby creating proper conditions for the growth of economy in general.