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Labour Absorption in Agriculture and the Restricted
Market for Manufacturing Industry: Some Contrasts
between India, Indonesia and Japan*

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I

It is characteristic of most contemporary scholars in the Marxian tradition that any introduction of the demographic factor in analyses of underdevelopment is viewed suspiciously as an alibi thrown in to obfuscate the real roots of underdevelopment. This view is not surprising for neo-Malthusian doomsday theories are put out as effectively today as they were by the parson Malthus himself to conceal the relationships of subordination and exploitation that operate as much between classes within a nation as they do externally between unequal nations. ^{1/}

The theoretical 'proof' of the Malthusian proposition, that population growth outstrips the availability of food, rests on the principle of diminishing returns. The underlying assumption about the fixed availability of land is actually better suited to the densely populated countries of contemporary Asia than it was to 19th century Europe. ^{2/} Even so the principle of diminishing returns is as invalid in Asia of the late 20th century as it was in Europe of the 19th century.

^{1/} For Marx's views on Malthus's theories as well as on his standards of scholarship see Karl Marx - Theories of Surplus Value, Part II Chapter IX, Notes on the History of the Discovery of the So-Called Ricardian Law of Rent. Especially Sections 1 & 2. Progress Publishers, Moscow, 1968.

^{2/} On this see K.N. Raj - Barriers to Development, and discussion of this paper by Bela Balassa, in E. Malinvaud (ed) Economic Growth Resources Vol. I. Proceedings of the Fifth World Congress Macmillan Press Ltd, 1979.

This is because there is still the 'third element' that Engels talked about, the progress of science and technology. ^{3/} There is also the compelling evidence of actual historical experience. Contrary to Malthusian chimera about geometrical and arithmetical rates of progress food production in the underdeveloped regions of contemporary Asia have on the whole kept pace with population growth, much as it did in 19th century Europe. Droughts and famines do occur but these are in the nature of deviations from the long term trend. Moreover it is now increasingly recognised that starvation and malnutrition have more to do with questions of purchasing power and income distribution rather than physical limits to the production potential of land.

But if Malthusian theories of doom are no more tenable today than at the beginning of the 19th century it does not automatically follow that the population factor is irrelevant or can be ignored in an analysis of the long term constraints to growth in the post-colonial societies of Asia. The problem, as I shall argue, is not so much that agricultural growth has not kept pace with population growth but rather that in the post-colonial economies of Asia gains in agricultural productivity have been largely offset by the excessive absorption of labour in agriculture. This in turn has led, via rigidities in the cost of food and fibre production, to high costs and market constraints for manufacturing industry as a whole. This structure of constraints, it can be further argued, is one of the basic long term consequences of colonial policy which retarded industrial growth at a crucial stage of development of these former colonies.

^{3/} F. Engels - Outline of a Critique of Political Economy, 1844.
 ed in Meek (ed) Marx & Engels on the Population Bomb.
 its press, 1971.

The main line of argument is spelt out in the next section. The thesis is then illustrated in the third section comparing the experience of Japan with that of two former colonial economies i.e., inner Indonesia (Java) and India. In Japan population grew at an average rate of between 1% to 1.5% per annum during the half century of Japan's industrialisation following the Meiji restoration of 1968. But the incremental population was entirely absorbed outside agriculture. The overall rates of population growth in Java and India were no higher during the same period; but in the Colonial environment almost the entire incremental population was absorbed within agriculture in both cases. The long term consequence of this pattern of labour absorption forms today one of the most formidable barriers to development in these economies

I should add that my purpose here is not to offer a comprehensive account of the impact of Colonialism but to deal with only ~~one~~ one important aspect of that impact which has not received adequate attention in the relevant literature. As such other aspects of the colonial impact, such as that on land relations, income distribution or the development of technological dependence, have been left out except where they have a direct bearing on the line of argument pursued here.

II

An essential concept in the thesis just outlined is the interdependence between increasing productivity and expanding markets which we derive from Marx's vision of Capitalism. The principle of scale economies, that the division of labour is limited by the extent of the

market, had already been discovered by Adam Smith. ^{4/} What we perhaps owe especially to Marx is the additional insight that the extent of the market is also, in its turn, dependent on the division of labour or the level of labour specialisation and productivity. This aspect of Marx's view of the long term dynamics of accumulation is especially emphasised in the Grundrisse and the Resultate, the originally excluded part six of the first volume of Capital, which Mandel has now introduced as follows:

The key aspect of the Resultate relates to the synthesis of the capitalist mode of production as production of surplus value and production of commodities produced by capital and to the interconnected problem of the origin and content of the increased productivity of labour without which no increase in surplus value would be possible in the long term.....The search for a constant increase in surplus-value production implies a search for constant reductions in cost price, a constant cheapening of commodities. Thereby capital, rather than adapting itself to a given structure of demand or socially acknowledged needs, by revolutionizing production revolutionises demands and needs themselves, expanding markets, provoking new needs,

^{4/} The principle has unfortunately been obfuscated and largely ignored in the Marshall - Walras tradition of mainstream economics inspite of the emphasis laid on it by 'acceptable' non-Marxists like Allyn Young and Schumpeter. We must also count it as one of the costs of the Keynesian revolution that in focussing on the immediate short-period, expansionary effects of investment via the multiplier, Keynes diverted attention from the even more significant long term expansionary effects of accumulation, via rising productivity and the declining unit costs of large scale production, for nearly half a century.

creating new products and new spheres into which production of exchange values for more value, production for profit, makes its appearance.

(Karl Marx - Capital Volume 1, Penguin edition, 1976, pp 944-945). 5/

For our present purpose the point is best illustrated by a simple example. Consider a situation where, to begin with, a million shirts are sold, each for the price of Rs. 50. In all there is a total consumer expenditure of Rs. 50 million on shirts over the given period. Now suppose some new technique of, say, more mechanised shirt manufacture is introduced which so reduces the unit cost of production that shirts are sold at half their original price. 6/ Then only Rs. 25 million out of the original consumer expenditure on shirts would be required to purchase the same one million shirts as before and an additional Rs. 25 million is now available to spend not only on additional shirts but also other commodities. The actual allocation of the additional purchasing power would depend on the relevant elasticities, but the important point here is that in physical units the size of the market for shirts and also some other commodities has been enlarged because of a decline in the unit cost of shirts.

5/ I have not referred here to Marx's theory of periodic crisis in which we also have the theory of population which Marx and Engels used in place of the rejected Malthusian theory. This is because the Marxian theory of crisis, which in many ways anticipated the Keynes - Kalecki short period theory of under full-employment equilibrium, is really a theory of periodic variations and interruptions in the pace of accumulation. Such a theory of short run cycles is clearly not appropriate for an understanding of the long term structural constraint which I have in mind. However it should be recognised that even in this context increased labour productivity and the cheapening of commodities plays a central role, both in the origin of periodic crisis as well as in the reorganisation of capital and the recovery of the accumulation process. See, K. Marx, Capital, Progress Publishers, Moscow, 1971, Vol. III Chapter XV - Exposition of the Internal Contradictions of the Law. Especially p. 255.

6/ The unit cost of production itself may have fallen by a larger or smaller proportion compared to the fall in price. The difference in proportions would then be accounted for by a change in margins accruing to producers and merchants.

In other words the size of the market in terms of physical units, or use value, is measurable only with respect to a specific structure of costs or labour productivity. To refer to one without the other is quite meaningless, for, the same level of expenditure may correspond to a large or small market depending on prices and unit costs of production. Of course once we move from the individual commodity to the market for commodities as a whole the picture is much more complicated since the distributional implications of price-cost relations have now to be taken into account. If, in the context of rising labour productivity and decreasing wage costs, profit margins are held constant then we get a declining share of wages in value added with a consequent decline in the aggregate consumption propensity. If on the other hand the share of profit is to be held constant, then this would necessarily imply a reduction in profit margins.

The complication arises because of differential rates of productivity change, and the different proportions of wage cost in prime cost, in different branches of production such that for any given product raw material costs and wage costs may decline at different rates. However we can state the argument in terms of a model where all raw material costs and wage costs decrease proportionately or, what is much the same thing, we have a completely vertically integrated production structure with a single output and a single original factor of production, namely, labour. In that case, margins remaining the same, the physical size of the market expands in proportion to the increase in labour productivity.

This result is almost trivial because of the strong assumptions which

we have made. In reality none of them would apply and the result would accordingly have to be qualified. But our simple case still makes the important point that in a physical sense the size of the market is conditioned by productivity just as productivity is conditioned by the size of the market.

Armed with this general proposition about the reciprocal relationship between productivity and the size of the market, we can now turn to that special branch of production which produces food, namely, agriculture. Expenditure on food is the major component of household budgets for the large mass of households in poor countries. Hence if the price of food were to fall with decreasing costs of production, consequent upon a rise in the productivity of labour in agriculture, this would substantially expand the demand for not only food but for other manufactured items of consumption as well. The increased scale of production of these other items would bring about a reduction in their unit costs of production and prices as well, thus leading to a further expansion of the market for consumer goods as a whole. The linkages stretch further. The expanded scale of production of consumer items would in turn increase the demand for intermediates and capital goods required to produce the consumer goods, thus bringing about a reduction in unit costs in these branches also. To the extent that agriculture itself uses the products of manufacturing industry, there could be feed-back effects leading to a further reduction in production costs in agriculture. The initial rise in the productivity of labour in agriculture would thus have set in motion a self

sustaining process of decreasing costs and increasing outputs across the board, with the growth of productivity and the growth of markets pulling each other along in tandem. ^V

The mechanism just described requires that the reduction in costs is reflected in a reduction in prices. To the extent that the profit margins of producers and traders rise, the whole process is weakened. The question clearly turns on how far the force of competition prevents these margins from rising indefinitely. At the same time it should be clear that the process does not require a reduction in margins. In particular, with reference to agricultural price policy, it must be emphasised that a natural fall in agricultural prices arising ~~as~~ the consequence of capital accumulation and rising productivity in the sector is quite different from an artificially administered squeeze on producers margins (the margins accruing to traders is of course another matter). Indeed a short sighted policy of turning the terms-of-trade against peasants, big and small alike, could easily obstruct the tendency to a natural fall in prices and jeopardise the entire mechanism of growth outlined earlier.

^V It should be clarified here that the fall in costs and prices required to activate the mechanism is not an absolute fall but a fall in relation to money expenditure, in particular the money wage rate or money wage bill. Thus the absolute price of foodgrain may be declining but the process may not get activated if money wage rates are falling faster. Conversely the process would get activated where the absolute price of foodgrains is rising provided money wage rates are rising faster. In other words the real purchasing power of the wage bill, and aggregate expenditure on manufactured products, must increase.

It seems to me that it is precisely this danger which Prof. Chakravarty has in mind when he states, in the context of a recent reference to the Bukharin-Preobrazhensky debate, that:

"Those who stress the parallelism between Marx's argument and Preobrazhensky's tend to forget that while Marx did talk about forcible extraction in the theory of original accumulation, he also talked about the interdependence between productivity, growth and the widening of the market which led to the emergence of capitalism as the dominant mode of production." 8/

We have so far established the crucial link between rising labour productivity in agriculture and the growth of the home market for manufacturing industry only in terms of the price of food. But the full force of this relationship is appreciated only when we recognize that rising agricultural productivity leads to an expansion of the market for manufactures because of a reduction in the price of not only food but also raw materials, the bulk of which are supplied by agriculture — at least in the early stages of industrialisation. 9/

8/ See S. Chakravarty - Alternative Approaches to a Theory of Economic Growth: Marx, Marshall & Schumpeter. R.C. Dutt Lecture on Political Economy, 1982. Centre for Studies in Social Science, Calcutta, and Orient Longman, 1982.

9/ Even under conditions of rising agricultural productivity growth would not occur smoothly. The process would be accompanied by the usual phenomena of periodic crisis etc. which are inherent in the anarchic and self-contradictory nature of capitalist production (see the reference cited in footnote 5 above). However I have ignored the question of these periodic interruptions of the accumulation process since we are here concerned only with a long term tendency. At the same time it should be evident from the context that this long term tendency itself is discussed only in relation to economies at a relatively early stage of industrialisation. Hence questions relating to the possible secular tendencies of stagnation under mature capitalism are also not addressed.

It must be clear by now that there are two crucial elements within agriculture which are decisive on the question of whether the whole mechanism of decreasing costs and expanding markets gets activated or not. One is the progress of science and technology in agriculture, the 'third element' that Engels cited in his critique of Malthus. The other is the increasing pressure of population 'employed' on land. In the densely populated under-developed countries of the Asian region, technology, by which I mean not only the fruits of formal science but also the experience and expertise of the peasant, is developed so as to maximise yield per unit of the scarce factor land. Accordingly labour which is available in abundance is used intensively and forms by far the most important element of cost, whether paid out or imputed.

Consequently

Where technological improvements ensure that the increasing productiveness of the soil outstrips the increase in labour absorption per unit of land, the unit cost of food and fibres delivered to the nonagricultural sector are likely to decline over time. This would set in motion the inter-dependent mechanism of decreasing costs and expanding markets which is so essential for the accumulation of capital in manufacturing industry. Where on the other hand the increase in land productivity is offset by the increase in labour application per unit of land, i.e., there is no increase in labour productivity, the unit costs agriculture would not be declining over time. The

mechanism described above may not get activated. Instead the whole process of accumulation in industry may get locked into a rigid structure of high costs and restricted markets. ^{10/}

III

To see how the long term dynamics of these two cases have worked themselves out historically in the Asian context we can compare Japan, which never suffered the weight of colonial domination, with inner Indonesia (Java) and India. In both cases colonial policy, in the one case Dutch and in the other British, blocked the prospects of industrial growth at a time when such growth was crucial to release the pressure of increasing population on land. The long term consequences of this distortion contrasts sharply with the industrialisation experience of Japan. It is not possible to present here anything like a systematic account of the three cases. Perhaps that is also not necessary since the facts are widely known. But the main contrasts bearing on our argument can be underlined.

^{10/} We have so far assumed that decreasing costs are passed on to consumers in the form of decreasing prices, though the decrease in prices may not be proportionate to the decrease in costs. Historically this has indeed happened in the presently industrialised economies of the West even though profit margins have tended to go up with the increasing concentration and centralisation of capital. But in most underdeveloped economies in Asia, as well as Africa & Latin America, a peculiar distortion arises from the fact that the few branches of manufacturing industry established in these countries are almost wholly dependent on technologies, and usually also plant and machinery, imported from the industrialised countries and therefore developed for much larger markets. This entails the emergence of highly concentrated market structures even at the outset of the industrialisation process. The near absence of any competitive pressure arising from this premature concentration of markets only reinforces the structure of high costs and restricted markets since any prospect of declining costs tends to get absorbed in higher 'mark ups' over cost. For an excellent analysis of some of these issues see M. Merhaw - Technological Dependence, Monopoly and Growth . Pergamon Press, Oxford, 1969.

JAPAN : While total population in the country grew at a rate of around 1% to 1.5% for more or less the entire period following the Meiji restoration of 1868 and leading upto the 2nd World War, the absolute size of the work force in agriculture stopped growing by the end of the 19th century and started declining thereafter. Thus the share of the work force dependent on agriculture, which was around 70% or more during the 1880s, had declined to only 33% by 1938. By 1970 it was down to as little as 16%. ^{11/} This withdrawal of the labour force from agriculture meant that even though land productivity in Japan increased at a relatively ordinary pace, by international standards, the productivity of labour increased very dramatically. Thus, between 1880 and 1940 land productivity increased by about 83% or an average annual rate of 1.3% compared to over 2% in some regions of East Asia during a similar period. As against this labour productivity, being the product of rising land productivity multiplied by a rising land - man ratio, rose by 175% over the same period.

Compensation of labour formed the main component of production costs in agriculture, accounting for half or more of the total cost right upto the 2nd World War, followed by about 30% for rent and roughly 10% each for other inputs and interest on capital. The dramatic

^{11/} See the article by Mataji Umemura - Population & Labour Force (and also appendix table A 53) in K. Ohkawa & M. Shinohara (ed) - Patterns of Japanese Economic Development. Yale University Press, 1979. The interested reader should refer to this volume and also K. Ohkawa & H. Rosovsky - Japanese Economic Growth. Stanford University Press, 1973. These are the most recent and authoritative sources from which the facts of the Japanese case cited here have been drawn. Other references will be cited in the

rise in labour productivity would have substantially reduced the unit cost of production. This was however not reflected in an absolute decrease of agricultural prices since the persistent excess demand for agricultural products introduced an upward pressure on prices. Agricultural prices were rising in contrast to prices in industry which were stable or declining. This meant not only that there was a secular tendency for the terms-of-trade to shift in favour of agriculture but also that the general price index for the economy was rising.

Nevertheless, the counteracting force of decreasing costs of production moderated the rise in agricultural prices. In particular it ensured that food prices did not outstrip the rise in money wages, such that real wages did rise even though the share of wages in value added declined over time. ^{12/} It also ensured that rising prices of agricultural raw materials did not push so far as to reverse the tendency of stable or declining prices in manufacturing industry. In view of the argument developed in the preceding section, it should be obvious that this was indeed a crucial achievement. For if food prices increases had outstripped money wages, thereby curbing the purchasing power of a large body of consumers, or if rising raw material prices had pushed up the unit costs of manufacturing output, the economy could easily have got locked into a structure of rising costs and restricted markets of the kind we have outlined in the preceding section. The withdrawal of the labour force from agriculture, and the consequent dramatic rise of labour productivity in agriculture, thus

^{12/} On this point refer to footnote 7 above.

successfully weakened the inflationary pressures generated by the excess demand for food and fibres which might otherwise have jeopardised the whole mechanism of industrial accumulation based on declining costs and an expanding market for manufacturing industry.

The full import of this effect is revealed only when we recognise that, contrary to popular belief, it was neither exports nor 'internal exports' - Kalecki's term for government expenditure -- which formed the main source of market expansion for Japanese industry. Though these factors were undoubtedly important, the main source of market expansion came internally from the expanding private demand for consumption and investment based precisely on the mutually reinforcing mechanism of rising productivity and growing markets which agriculture had facilitated

The proposition is best demonstrated by the following table which shows that by far the largest component of incremental demand came from private consumption and investment expenditure.

Incremental Contribution to Aggregate Demand (%)

| | $\frac{\Delta C_p}{\Delta V}$ | $\frac{\Delta I_p}{\Delta V}$ | $\frac{\Delta X}{\Delta V}$ | $\frac{\Delta G}{\Delta V}$ |
|---------|-------------------------------|-------------------------------|-----------------------------|-----------------------------|
| 1908-17 | 751.5 | 19.2 | 23.7 | - 4.5 |
| 1912-18 | 52.0 | 18.6 | 23.4 | 6.0 |
| 1918-31 | 59.5 | -2.0 | 16.4 | 25.9 |
| 1932-38 | 22.5 | 21.0 | 27.3 | 26.1 |
| 1955-61 | 42.3 | 33.5 | 12.4 | 11.9 |
| 1962-64 | 43.1 | 25.9 | 15.0 | 16.0 |

Source: K. Ohkawra & H. Rosovsky - Japanese Economic Growth, Stanford University Press, 1973. Table 6.2

Note: The following are used for increment in private consumption (ΔC_p), private investment (ΔI_p), exports (ΔX), state government expenditure (ΔG) and aggregate expenditure (ΔV) Δ symbols

Except during the period of militarisation, these two components accounted for 70% or even 80% of the total increment in demand. The rising share of investment in incremental demand, along with consumption continuing to remain the major component, reflects the fact that while the share of profits in value added increased over time wage rates also increased in real terms.

It is important in this context to consider the Ohkawa-Rosovsky thesis that it was not exports which led growth but growth which led exports. In elaborating on this thesis Ohkawa-Rosovsky argue that Japanese exports grew faster than world trade only because the Japanese economy grew faster than the world economy. ^{13/} They also claim that this rapid growth of manufacturing industry was largely due to rapidly rising productivity arising from technical progress. The consequent tendency towards decreasing costs and prices not only expanded the domestic market but also enabled Japan to penetrate foreign markets. However just as raising productivity expanded markets so also the growth of the market induced further increases in productivity. For, as Ohkawa-Rosovsky indicate in their discussion of technical progress, the latter cannot be disentangled from the scale economies of large scale production techniques which become viable only when the market is sufficiently enlarged. We have here in other words, a typical case of industrial accumulation based on the mutually reinforcing mechanisms

^{13/} The calculations of Kuznets & Ohkawa indicate that between 1885-89 and 1968-70 the Japanese economy grew by 48% per decade. The closest approach to this is 39% for U.S.A. & 37% for Sweden. Within the economy industry grew the fastest, raising its share from 20% to 52% of the Net Domestic Product between 1885 & 1938. See Ohkawa and Shinohara op.cit.

of rising productivity and expanding markets along the lines described in the preceding section.

It will appear from the account of cause-effect linkages outlined above that release of the pressure of population on land was a major factor in Japan's industrialisation. This is indeed central to the contrast which I hope to establish between Japan and the Colonial cases. At the same time the argument should not be misconstrued as implying that population pressure on land, or the lack of it, is in some sense the original cause or ultimate factor explaining the success or failure of industrialisation in the cases compared. The withdrawal of the population from agriculture in Japan was conditioned as much by a specific political-economic conjuncture as the processes in Java or India were conditioned by the alternatives conjunctures of Colonialism.

Of the various conjunctural elements two in particular need to be mentioned in the Japanese context. One is the Land Tax imposed by a development oriented, nationalist government after the Meiji restoration. By a single stroke this tax redeployed a substantial portion of the surplus product of agriculture from unproductive use by feudal warlords to productive investment in industry, infrastructure, etc. ^{14/} It was this large transfer of the surplus out of agriculture which made possible at the same time the absorption of the entire incremental population outside agriculture. The other is the very large base of

^{14/} For an estimate of the surplus transfer from agriculture see S. Mundle and ~~K. Ohkawa~~ Agricultural Surplus Flow in Japan Developing Economies Vol. XVIII No. 3. September 1979.

petty commodity production: artisans, craftsmen and home industry; which existed even prior to the growth of modern industry. Unlike in the Colonial cases, this sector actually grew in a symbiotic relationship with modern industry. Where it was destroyed this happened along with, and indeed because of, the growth of modern industry within Japan. Far from displacing labour, therefore, this pattern of industrial growth readily absorbed the surplus population of agriculture and eventually transformed it into a skilled industrial proletariat for modern industry. ^{15/}

JAVA: The Japanese case is a useful one in that Japan was never under colonial rule. By comparison against this backdrop it is possible to gauge what difference ~~Colonial~~ policy made to the long term dynamics of those countries which were colonised. This is not to suggest a vulgar mechanical view that everything that has happened differently has happened because of Colonialism. Each country has after all its own historical antecedents and its own specificity, interpreted in the broadest sense of the term, quite apart from the fact of Colonialism. At the same time it must be ^{*} recognised that Colonialism is a political-economic element of this very specificity. Comparison does offer therefore an opportunity to draw useful inferences, provided the inferences are carefully drawn, about the impact of Colonialism.

^{15/} On the relationship between traditional and modern manufacturing see Ohkawa and Rosevsky op.cit. For the specific modalities of labour movement from agriculture to industry via the intermediate sector see Keiji Ushiyama - Rural Labour in Pre-War Japan : Case Study of Kambara Gun, Niigata Prefecture. In S. Hirashina (ed) Hired Labour in Rural Asia. Institute of Developing Economies, Tokyo, 1977.

^{*}/ recognised that Colonialism, or the absence of it, does form an important

Comparing thus the cases of Japan and Java in an important work on the phenomenon of agricultural 'involution' in Indonesia, Geertz mentions that the yield per hectare in Java around the beginning of the so-called Corporate Plantation System (1870) was about the same as in Japan at that time, i.e., the beginning of Meiji in 1868. ^{16/} The basic structure of land organisation, plantations apart, also appear to have remained similar in the two cases: relatively undifferentiated, peasant family based, ownership-cum-operational units of small size. The overall rate of population growth in the two cases have also been about the same, at between 1% to 1.5%, since 1900 onwards. Yet, whereas land productivity increased by 83% in Japan between 1880 and 1940, and labour productivity by 175% over the same period, land productivity in Java stopped increasing after the 1st World War and labour productivity did not increase at all over roughly the same period. Also, during this period the share of agriculture in total work force as well as national income was more than halved in Japan. But in Java the share of agriculture in both these aggregates was still as high around 1940 as they had been in Japan around 1880.

Asking what happened in the one case which did not happen in the other, Geertz answers that among many contrasts "The most striking -- and the most decisive -- is the contrast between the way Japan utilized

^{16/} See Clifford Geertz-Agricultural Involution: The Process of Ecological Change in Indonesia. University of California Press, Berkeley, 1971, Chapter 6. For the facts of the Indonesian case I have drawn heavily on this work or sources cited in it.

its rapid population increase and the way Java utilized hers. Thus between 1870 and 1940 the bulk of the increase in Java, some 30 million people, were absorbed in agriculture whereas the agricultural population in Japan had become virtually constant by 1900 and actually started declining after that.

To see why the pattern of labour absorption in Java was so different it is necessary to consider, at least briefly, the compulsions of the Corporate Plantation System which was introduced as the third phase of Colonial Policy in Java, following the Company System and the Culture System, during the latter half of the 19th century. The legal underpinning of the system was provided by the Agrarian Land Law of 1870 and ancillary enactments. Its main purpose was to transfer the responsibility of appropriating surplus from the Colonial state to private enterprise and at the same time to ensure that capitalist enterprise was superimposed on the subsistence economy without actually supplanting the latter.

While declaring all 'waste land' inalienable state property and peasant lands inalienable to foreigners, the new law also provided the necessary rules and regulations for long term leasing of all lands, either state property or peasant property, by the plantation companies. The individual planters who originally promoted these companies vastly increased the private plantation area under sugar cane - the dominant crop - though enterprises in coffee, tobacco etc. also appeared. Subsequently the price collapse in the depression of the mid-eighties

and crop diseases together ruined these individual planters and the estates passed into the hands of the great merchant houses of Amsterdam & Rotterdam at a cheap rate. In Java itself separate but inter-dependent niches were now allotted to sugar cane and rice over an agricultural cycle on the same plot of land. The counterpart of this pattern of land use at the level of relations was a new relationship of dependence between cane factory and peasant farm.

Whole villages were given on long leases, either willingly or by coercion, to the plantation company which planted one part with cane and left another part to the peasant holders to grow rice or other crops. Since new cane was planted before old cane was harvested the ratio of cane area to grain area in a village was either $1/3$ or $2/3$, depending on whether the old cane crop had been harvested or not. One cane crop, with preparatory operations etc, took about 18 months. Hence a complete cycle was completed in 3 years and seven such cycles would be completed in the 21 years of a typical long lease. The same plot of land was now rice farm and now cane plantation. The peasants, attached to their farms, were therefore always present and available cheaply when their land was under cane and they were required in large numbers as labour during the planting or harvesting seasons for cane. For the rest of the time they were left to fend for themselves on the area under rice. As the households grew and multiplied, the peasants farm economy became increasingly fragmented and the land: man ratio in rice cultivation continuously declined. Labour, available in growing abundance, was applied with increasing intensity to squeeze the most out of the factor land which became progressively more scarce. At the same time the plantations now had at their command a growing

supply of labour to perform the same volume of work and the labour was therefore available more cheaply.

Thus the increasing absorption of labour on the land held down the productivity of labour, or kept high the real cost of food, in the peasant economy. On the other hand it performed a crucial function in pushing down the cost of cane production in the plantation economy. Starting with the Company System and the Cultural System, Colonial capitalism now penetrated to the very heart of the peasant economy with the Corporate Plantation System. It disarticulated the internal structure of the peasant economy and instead integrated the latter with modern manufacturing industry -- the sugar factories -- in an unequal relationship.

Japan modern manufacturing industry was integrated with agriculture and petty commodity production in a mutually reinforcing and supportive relationship. But in Java the integration was purely exploitative. In Japan the surplus product of agriculture was employed productively in developing modern industry within Japan with a consequent feed back of advantages to Japan's agriculture. In Java the surplus product of agriculture was absorbed in keeping alive the cheap supply of labour to plantation industry and thus in effect transferred, as high profits of that industry, to the centres of commercial capital in Holland. Explaining the phenomenon of stagnant ^{change - involution - in} ~~change - involution - in~~ Java, Geertz thus concludes that "The existence of the colonial government the traditional Javanese economy... was decisive because it meant that the growth potential inherent in the traditional Javanese economy.....was harnessed not to Javanese (or Indonesian) development but to Dutch".

INDIA: To some observers the contrast in performance between India and Japan has been no less puzzling, indeed even more so, than that between Java and Japan since India was "the first of the oriental countries to feel the impact of industrialism and yet never completed the transition; whereas Japan, starting later and starting with fewer resources, did complete it." ^{17/}

The facts of India's colonial history which, I believe, explain in large measure this puzzle are too well known to bear detailed repetition. It is sufficient to recapitulate only some salient features germane to the present context. ^{18/} As we shall see, though the specifics of Dutch and British colonial policy in Java and India were different in the end they produced the same results.

British colonial policy was on the whole indifferent, if not actually hostile, to the development of Indian industry. In fiscal policy it generally followed the conservative doctrine of balanced budgets and public expenditure for capital formation was never seen as a means of stimulating industry. When such expenditure did occur,

^{17/} K. Davis - Population of India and Pakistan, Princeton, 1951, p. 27. Also quoted in A. Bagchi - Private Investment in India: 1900 - 1939 Cambridge University Press, 1972, p.4.

^{18/} Foreign scholars less familiar with the Indian case may refer to Bagchi op.cit. Most of the relevant empirical material has been put together in this authoritative work on private investment in India during the last four or five decades of Colonial rule. The facts of the Indian case cited in this paper are drawn mainly from this volume and also N. Chandra - Long Term Stagnation in the Indian Economy : 1900 - 75 . Economic and Political Weekly, Annual No. April 1982.

as for instance the investment in railways, the expansionary effects largely leaked out to the capital goods industry in the metropolis. Similarly in commercial policy no protection at all was offered to Indian industry until after the 1st World War. And thereafter discriminating tariff protection was extended to a few industries, ~~mostly~~ for purposes of raising revenue rather than nurturing and protecting infant industries. In actual fact steel, a few engineering products, paper and matches were the only industries given any protection. Extension and development ~~also~~ activities ~~were~~ were often no more than token gestures and depended more on dedicated individuals rather than government support, while attempts by ~~entrepreneurs~~ ^{entrepreneurs} India ~~to~~ to promote long term loan banks for industry proved to be abortive.

This attitude of the state to industrial development ^{was} ~~is~~ in sharp contrast to the aggressive industrialisation policies of the Meiji state in Japan. And it is no surprise, therefore, that while industry grew at a rapid pace in Japan it limped along in India. Moreover, as we have seen, large and small industry grew in a symbiotic relationship in Japan. In India the evidence suggests that one grew at the cost of the other. Thus Chandra points out that while secondary sector output increased $2\frac{1}{2}$ times between 1900 and 1945-46, large industry output increased around 6 times over the same period. Small industry on the other hand fluctuated around a stagnant level and total employment in the sector declined by a million persons over the whole period.

The phenomenon of 'deindustrialisation' under Colonialism, often emphasised by nationalist scholars of the time, has been disputed and

there is some controversy as to whether the share of industry in total work force, or output, actually declined or not. But in any case there is no dispute that (a) the share of industry was indeed very small and (b) that it may or may not have declined in the half century between 1881 & 1931 but certainly it did not increase. Meanwhile population was growing. The rate of growth was low, at less than 1%, compared to the then prevailing rates of Japan and Java. But it still meant a substantial increase in population, the bulk of which was absorbed in a stagnant agricultural sector. Thus the late Prof. Thorner, while disputing the fact of deindustrialisation, still noted that "It is indeed a remarkable phenomenon.....that agricultural production was reported as virtually constant, and the industrial structure of the economy as practically stationary, during a half century when India's population rose by nearly one hundred million". ^{19/}

To judge the implications of this increasing population pressure on land towards the latter part of the colonial period it is necessary first to consider the effects of Colonial policy in agriculture. The central objective was revenue, to skim off a good part of the surplus product of agriculture using the simplest means of collection available. To this end different land settlements were imposed in different regions, all of which entailed the emergence, sooner or later, of intermediaries who squeezed to a minimum the share going to the actual cultivators and themselves took little interest in improving output. In other words the settlements were not conducive to improving the productiveness of the land. Thus the value productivity of land was stagnant during the first

^{19/} See Daniel & Alice Thorner - Land and Labour In India Asia Publishing House, Bombay, 1962, p.77.

half of this century. The increased absorption of labour meant a decline in the land: man ratio and more fragmentation, but it did not raise land productivity, such that labour productivity actually declined. Or, what is the same thing, the real cost of agricultural production, i.e., the labour embodied in a unit of output or the total social labour required to produce a given volume of output, increased.

What made matters worse was the fact that performance was unevenly distributed across crops around this norm of stagnant land productivity. In commercial crops productivity actually rose. This came largely as a consequence of investment in irrigation, such as in the ~~local~~ colonies, which was itself motivated by strategic concerns, and also some investment in research for developing better seeds. In foodgrains the land productivity was lower and also declining, especially in the case of rice. Not only did this cause a shift away from food crops to cash crops in acreage, but it also meant that the rising labour cost of production was especially concentrated in food crops. This, combined with the high inequality of incomes, meant there was little purchasing power left over for manufactured items of mass consumption. The restricted market for manufactured consumer goods was also reflected further upstream in limited demand for intermediates, capital goods and basic goods. Thus, all along the line the possibilities of cost reduction through economies of large scale production had been pre-empted. Manufacturing industry was thus locked into a structure of high costs and small markets, with little support from the state while agriculture had got locked into a structure of high population pressure, low land: man ratio and labour intensive techniques with low and declining labour productivity.

Such were the colonial antecedents of India's post-colonial economy.

Following political independence the new nationalist government launched a massive industrialisation drive, led by public sector investment, aimed at import substitution within a highly protected economy. In substance this was no different from the Japanese industrialisation drive launched by the Meiji government some seventy years earlier. But the big push was still too small and it had come too late. It was too small because by the early fifties the surplus population in agriculture had already grown very large and it was too late because by this time the capital intensity of manufacturing technology had risen very high. The fixed capital per worker in manufacturing industry was Rs. 4,652 in 1950-52, measured at 1960-61 prices, according to Chandra. By the mid-seventies this had risen to Rs. 17,007 per worker. To transfer millions of persons from agriculture to industry at these huge capital costs per person was obviously a task far beyond the resources of either the state or private capital—with or without foreign aid. This first industrialisation spurt petered out by the mid-sixties, long before it could even make a dent on the population density in agriculture. ^{20/}

Thus the Indian economy is still locked into a structure of rigid costs and restricted markets for manufacturing industry along with increasing population pressure on land, decreasing labour productivity and the high cost of food. The problem is compounded by having on

^{20/} It may be argued here that relative to levels of labour input in many east Asian economies with rapidly growing agriculture, the levels of labour input in India are still quite low. But such a comparison of absolute levels of labour input would be invalid given the differences in basic physical conditions such as the distribution of rainfall, hardness of soil etc. On this see A. Vaidyanathan & A.V. Jose - Absorption of Human Labour in Agriculture: A Comparative Study of Some Asian Countries Annexure I in Labour Absorption in Indian Agriculture I.L.O. (ARTEP), Bangkok, 1978

top of everything else a highly unequal distribution of income. Also of importance here is the other aspect of 'deindustrialisation' which has received much less attention, namely, the destruction, along with traditional industry, of indigenous capacities for developing new technology or adapting imported technology to Indian market conditions and Indian resource endowments. Modern industry is wholly dependent on imported technology. That technology, and the plant and machinery in which it is embodied, is designed for much larger markets and labour scarce economies. On the one hand this technology is incapable of absorbing the surplus population of agriculture. On the other hand it entails production on a scale so large relative to our restricted market that it necessarily generates highly concentrated market structures which only reinforce the tendency of rigid costs and constricted markets.

Whether the Indian state can launch a second industrialisation drive of the scale required to break out of the above structure of constraints or not is a speculative question. What can be observed as an actual tendency over the past ten to fifteen years is the attempt by private capital to overcome these constraints through numerous strategies of reorganisation within the domestic market. Apart from the ongoing and processes of centralisation/~~and~~ concentration there are also symptoms of industrial restructuring, the shift from old to new industries, and the development of ancillary based production. ^{21/} But perhaps the most important tendency of all is the attempt of Indian capital to break out of the barriers of the Indian market altogether through a

^{21/} On this see Sudipto Mundle - Growth, Disparity and Capital Reorganisation in the Indian Economy: Some Speculations. Economic and Political Weekly. Annual No, March 1981.

process of increasing integration with international capital as junior partners in a world economy. The increasing export of Indian capital abroad, the growing incidence of foreign technical and financial collaborations in India and the not-so-gradual opening up of the Indian economy are all symptoms of this process. The last in particular indicates that the state too is a party to this unfolding process.

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