

THE IMPACT OF CAPITAL-INTENSIVE AGRICULTURE ON
PEASANT SOCIAL STRUCTURE: A CASE STUDY

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The contact between so-called "capitalistic" (i.e. capital-intensive) forms of economic organization and so-called "pre-capitalistic" (i.e. labor-intensive) forms of economic organization has most commonly been described as leading simply to disruptive consequences. The capital-intensive intrusion is seen as weakening or destroying the social context within which the pre-capitalist sector is set. A common formulation of this sort of "degenerative" contact situation is that the people on the pre-capitalist side lack the dynamism, the elasticity of wants and the industriousness of the people on the capitalist side, so that the appearance of money, of possibilities for wage work, and of the opportunity to buy mass-produced goods on the open market, in, say, a peasant society, leads necessarily to indebtedness, a loss of self-respect and a disappearance of native skills. The excesses of colonialism and imperialism, the anomie the growth of industrialism has produced in certain parts of our own society, and the clearly anti-traditional impact of capital intensive industry wherever it has appeared, have all strengthened this pessimistic view concerning the necessary outcome of contact between industrial and non-industrial society.

¹This paper, delivered at the 1956 annual meeting of the Society for Applied Anthropology is a summary of one part of a longer essay tracing the development of a town-village complex in eastern Central Java, published by the Center for International Studies, Massachusetts Institute of Technology. References and acknowledgements have been omitted from this summary and may be found in the original manuscript.

Yet with the interest in the development of economically "under-developed" areas, the problem of contact between "capitalist" and "pre-capitalist" patterns is coming to be reassessed and to be investigated in much greater detail, for the possibility of development of such areas through capital transfers from economically more advanced areas rests on the possibility that such transfers can be effected in a manner which will lead not to social and cultural deterioration but to reconstruction. The pessimism of the older views, linked as they often were to policies aimed at maintaining a stable relationship between advanced industrial areas and non-industrial ones, has now come to be challenged by an optimism, linked with a policy designed to close the gap between the two sorts of areas. And where the earlier view tended to err in the direction of underestimating the positive effects of contact between "capitalist" and "pre-capitalist" forms of economic organization, the newer views tend often to underestimate the difficulties involved in such contact, to oversimplify the problem by assuming the essentially stimulative effects of modern industrial patterns to be so strong that they will, so long as they are introduced in sufficient strength and in a sufficiently short period of time, inevitably turn the receiving country toward a developmental pattern, that the indigenous socio-cultural patterns are mere "barriers" to be overcome by heavy injections of imported capital.

The position taken in this paper is: 1) that a capital-intensive form of economic organization introduced into a traditional social structure may under certain conditions come to act as an engine for economic development, may stimulate reform of the traditional structure toward a more productive pattern of adaptation; 2) that the ways in which such stimulation

can fail to occur, in which the juncture of modern forms of economic organization and traditional ones can misfire leading to cultural disintegration on the part of the economically weaker group, are more numerous and more easily realized than the ways in which it can go right; and, 3) that the most important set of variables determining the difference between the two outcomes--the developmental and the anti-developmental--are broadly cultural and social rather than narrowly economic.

It is in such a light as this that I intend to look at the contact between European introduced and managed commercial agriculture and peasant society in a small region in Central Java during the years immediately before the war. I wish to show that there were essentially creative as well as destructive elements implicit in this contact, and that, although the creative elements were smothered by colonial policies in the name of moderating the destructive elements, they offer hope for the future now that the political context of contact is altered. I wish to emphasize that in judging the welfare consequences of a novel form of economic activity for a traditional social structure, one must be careful to distinguish those elements which are implicit in the economic facts as such and those which are the result of more broadly cultural factors, and that economic planning for underdeveloped areas demands a more careful and positive treatment of such cultural factors than one which merely regards them as residual "barriers to be overcome."

In 1953-54, I was a member of a seven-man team studying a town-village complex in the eastern part of Central Java, which I shall call Modjokuto. Modjokuto is the name of a town, a subdistrict and a district. The town is the seat of government for both the subdistrict and the district, and is

an important commercial center for the whole area. The subdistrict is about thirty square miles in extent and includes within it eighteen "village clusters," while the district is about seventy-five square miles and consists of five subdistricts, including that of Modjokuto itself. As the town lies at the southeastern edge of the Brantas river valley, there is within the district a good deal of variation in landscape type and, consequently, of land use. To the east of town, the land breaks rather quickly into foothills which lead, ultimately, to a group of large active volcanoes. Southward, the country, though only somewhat broken, is either forested or increasingly dry and unirrigable. Thus, although there are some rice fields on all sides of the town, it is to the northwest that the most fertile, irrigable rice-bowl land lies.

In the high mountain areas the most characteristic crops are the more cool climate vegetables--cabbages, squashes and even potatoes, but though some of these vegetables flow through Modjokuto on their way elsewhere, the bulk of them do not, so that the importance of this area for the town is, relatively speaking, small. On the dryer, slightly elevated, land to the south, Dutch private enterprise had a quite extensive plantation system--sugar, coffee, rubber, sisal, tapioca--before the war. During the war, squatters were invited on to much of this land by the Japanese occupation government. The migrants were given small parcels of land to farm and have remained in place since the war, despite some governmental attempts to remove them. On the rice bowl land, where most of the population is settled, one finds, of course, the labor-intensive, flooded-field, double-crop agriculture characteristic of Java more or less generally, and of Central Java particularly: rice is grown during the wet monsoon; corn, soya-bean, peanuts, etc., in the dry.

A labor intensive agriculture plus a high and growing population means that the primary economic problem for the peasant is to get land and labor together in the right amounts at the right time. As a result, village social structure typically consists of an integration of political, religious, and economic activities within a traditionalized distribution of land rights on the one hand and rights over labor on the other. The land side of the equation is expressed in a system of land tenure in which a set of villagers--the so-called "kernel" villagers--are seen as descendants of the man or men who originally cleared and settled the village. Each of these villagers has a small unit of land over which he has life-long use rights which are unalienable and indivisible, though they are inheritable by one or another of his children. If a nuclear villager dies without heirs, commits a crime or leaves the village, the land is redistributed to a waiting candidate who lives in the village but who does not yet own a share of such land. As the village leaders have extra land rights as perquisites of their offices, a "natural" class ranking tends to form around this tenure system. At the top are the village leaders; after them the nuclear villagers who have shares in the village rice land; beneath them the candidates who own only house land; and at the bottom are those who own nothing and board with others. The labor exchange system is also an explicit one, involving different sorts of patterns appropriate to different economic and social contexts, and closely tied in with the land tenure patterns.

This picture of village social structure is, admittedly, an ideal-typical model stressing the more traditional aspects of rural life and as such is, to a certain degree, false to the facts in Modjokuto. The

growth of private property, monetization and urbanization, to say nothing of the increased landlessness resulting from the rising population, has significantly blurred the edges of the underlying pattern. Nevertheless, though the traditional village social structure has been strained and weakened by the kinds of developments we usually associate with increasing urbanization, it has far from been destroyed by them. It has, in fact, proved remarkably capable of absorbing a very dense population without developing a sharp class segregation of haves and have-nots. Rather than a concentration of land holdings and a disenfranchised proletariat, there has occurred a fractionization of both the land tenure and labor rights side of the equation so that the structure can contain more people: thus, several villages in the Modjokuto area recently doubled their number of nuclear citizens by halving the holdings of each citizen; thus, complicated tenancy, sub-tenancy, renting and sub-renting patterns have developed which allow a greater number of people to claim a small portion of agricultural output from a single piece of land. Such a social structure, its agricultural base growing more and more labor intensive, thus holds an increasing number of people on the land through a pattern I have called elsewhere "shared poverty," a kind of super-saturated solution of land and people sustained at a level of living only slightly above subsistence.

But it has not always been so. Modjokuto was only settled from about 1850 on and so was, before the turn of the century, something of a frontier area, and had, as a result, a looser sort of socio-economic structure than was common in the already heavily populated regions of Central Java, out of which most of the settlers had come and where the classic Javanese civilization was centered. Wet rice cultivation took up a rather

smaller proportion of the land in Modjokuto than in Central Java, while dry fields and grazing land took up a rather larger proportion. And the ecological pattern was a more open, flexible mode of adaptation, seemingly capable of development in any one of several directions. However, after a brief period of expansion when it seemed possible that rather distinctive--for Java--social, cultural and ecological patterns were in the process of developing, patterns which might have led to a more dynamic sort of society, the economic history of the rural area is one of a progressive rigidification toward the typically Central Javanese modes of land use, social organization and cultural outlook, a replication, with some differences, of the essentially static village society of the great rice plain areas.

One of the chief determining factors in this pattern of development was the plantation system. The first plantation in the area was set up in 1879 on the basis of a seventy-five year lease of Government-owned "waste" (i.e., unsettled) land. By 1875, there were five or six more underway, and by 1925, at the height of the expansion, there were ten sugar mills, three tapioca mills and two sisal mills spotted around the countryside within a twenty mile radius of the town. But, even more important, from the point of view of its effect on Javanese life, the sugar mills, which could not grow their crop very efficiently on the dry lands to the south, rented about 2,500 acres of the best sub-district rice land a year from the village peasants for cane-growing. The system was for the mills to contract leases through the village chiefs with whole villages for a twenty-one and one-half year period. Each eighteen months a different one-third of each village's rice land was surrendered to the company, the remainder being left to the peasants

to till as they wished. As the sugar companies were renting, again around 1925, somewhere around 25% of the wet-rice land in the sub-district each year, vs. a Java-wide average of 6%, it is clear that Modjokuto before the war can properly be referred to as a "sugar area."

Some idea of the general size and shape of the expansion can be gathered from the fact that the volume of freight carried by the local railroad increased nearly forty-fold between 1900 and 1929, that the per hectare sugar rents paid to peasants doubled from 1913 to 1924, that piece work wages rose about 20% in the same period and prices of most staples about 50%. Thus a study of the general area made in 1924 summed up the direct effect on the Javanese population of this burst of expansion in capital intensive agriculture in three generalizations:

1. Manual laborers were in a poorer position at the height of the expansion than they had been at the beginning of it.
2. Small landholders who could not make a complete living out of their land were even worse off.
3. The larger landholders were gaining in welfare.

The plantation economy stimulated a change toward larger holdings and the proletarianization of marginal peasants. As the Dutch sugar managers contracted both land for renting and seasonal labor through the village chiefs, this group tended to benefit differentially from the expansion of commercial agriculture. Other individuals, somewhat well-off to begin with, benefited in similar ways, for the mills often lent money to favored Javanese to buy up land on the condition that it would then be rented to the mill on the mill's terms. Also, although

planting was carried out by a seasonal work force organized under permanent foremen, sugar grown on peasant land was often harvested under contract by somewhat more prosperous peasants. These peasants were given oxen by the mills as an advance and hired their own day laborers, transporting the cane to the railroad. Such contracting was, evidently, quite profitable for these agrarian entrepreneurs and, as village chiefs usually gave out these contracts, it was quite profitable for them too.

There grew up, consequently, something of a larger landholders class, made up of village chiefs and other well-to-do peasants. These larger landholders, in addition to being labor hirers and harvested under contract by somewhat more prosperous peasants. These peasants were given oxen by the mills as an advance and hired their own day laborers, transporting the cane to the railroad. Such contracting, was, evidently, quite profitable for these agrarian entrepreneurs and, as village chiefs usually gave out these contracts, it was quite profitable for them too.

There grew up, consequently, something of a larger landholders class, made up of village chiefs and other well-to-do peasants. These larger landholders, in addition to being labor hirers and harvest contractors, were, commonly, "money lenders" as well, though they most often lent in the form of consumption goods--coffee, rice, textiles--at, of course, exorbitant rates. With factory credit or personal savings some of them bought agricultural equipment--oxen, ploughs, hoes--which they resold, lent or rented to small peasants or to their tenants, and they traded in the dry season cash crops which were coming increasingly to be cultivated at

this time. They even tended, in several cases, to develop a new settlement pattern, moving out from the solidly settled village block to live in isolated and (relatively speaking) palatial splendor in the middle of their fields.

Here we would seem to have--ignoring for the moment the racial caste elements involved in the colonial nature of the organization of this whole pattern--a collection of some of the same elements which accompanied development in England in the 16th and 17th centuries: rising prices, a moderate decline in real wages, higher rents, increasing technical efficiency, consolidation of landholdings and enclosures and at least the beginning of a genuine rural "middle class" of slightly larger landholders. As in England, the structure of the economy was changing so as to bring the size of the agricultural productive unit more into line with the abilities of the rural farmer to manage resources, to come to terms with the limited divisibilities of capital and organization as factors of production, so as to make free-hold agriculture more a "businesslike" and less a "subsistence" proposition. There are altogether crucial differences between the two developments; but the point is that, for a brief period, the plantation system threatened to force a complete reorganization of the Javanese peasant economy in the Modjokuto area. That it did not succeed in doing so was primarily due to three facts: 1) the boom was short lived and collapsed almost entirely; 2) the form in which the plantation pattern impinged on the indigenous subsistence pattern tended to mitigate its transformative effects; and, 3) the indigenous pattern was deeply rooted.

The depression was as severe in the East Indies as anywhere else in the world, and the collapse of the international sugar market sent the plantations skidding down an incline from which they never really recovered. But the other, less purely economic, aspects of the problem, those concerned with the special nature of the interaction between commercial and subsistence agriculture in the Modjokuto area, are even more interesting from a theoretical point of view, for they suggest that certain social and cultural factors were confining the impact of "capitalist" organization of agriculture on the traditional village economy along very circumscribed lines and might have continued to do so had world commodity prices remained stable.

From both sides, the Javanese and the Dutch, there were strong social and cultural forces acting against the changes "capitalist" organization of production was tending to stimulate. On the Javanese side, the main conservative force was, of course, the village tradition of Central Java which the peasants would naturally tend to replicate in Modjokuto if the social and ecological conditions within which they found themselves were capable of supporting it. On the Dutch side, the conservative force was the central desire of all imperialist enterprises: the wish to bring a people's products into the world economy, but not the people themselves, to have one's economic cake and eat it too by producing "capitalist" goods with "pre-capitalist" workers on "pre-capitalist" land. As a result, the sugar plantations aimed at an inherently self-contradictory goal: they needed to keep Javanese society flexible enough so that its land and labor could be employed toward the production of goods saleable on international markets, and yet keep it rigid enough to prevent it changing

in a "capitalist" direction, which would raise their wage and rent costs. Thus at the same time as their more economic activities were producing the structural changes I have just described, their political and social policies were tending to re-create in Modjokuto the conditions under which the traditional Javanese village system would persist and grow stronger.

The plantations' reinforcement of the traditional village way of life took three forms: 1) by restricting their interests, so far as peasant owned land was concerned, to sugar, which demands a highly irrigated environment similar to that of rice, and confining other sorts of commercial cultivation to unsettled lands, they reproduced in Modjokuto the sort of ecological setting characteristic of Central Java where the traditional village patterns of adaptation were centered; 2) by attempting to control the processes of production all the way down to the raw material level, the plantations hindered the development of a class of independent agricultural entrepreneurs; 3) by keeping their labor force maximally seasonal, their wages low and preventing mobility for Javanese upward through the ranks of their organization, the plantations encouraged the formation of a very large partial proletariat composed of worker peasants who were neither wholly on the "pre-capitalist" nor wholly on the "capitalist" side of the dual economy, but who moved uneasily back and forth between the two in response to the movement of sugar prices.

Taking the first point, sugar is, in a tropical wet-rice country, an almost ideal commercial crop because its environmental demands so closely approximate those of rice, particularly in the fact that an increase in the intensity of irrigation is in both cases a paramount technical prerequisite

to increased productivity. Thus, the plantations' decision to grow sugar on peasant land, and so make a large investment in improved irrigation facilities was also almost necessarily a decision to increase the Javanese production of rice. As indicated above, the whole of the Modjokuto area up until shortly after the turn of the century was characterised both by a relatively low population density and a low "rice terrace density;" i.e., terraces were interspersed with large expanses of unirrigated land. With the rather sudden increase in capital investment in improved irrigation facilities in the early part of the century, the river basin closed up into the highly populated, thickly terraced, intensively worked countryside it has since become. The heavy emphasis on irrigation at the expense of other kinds of capital improvement in agriculture--e.g., those concerned with stimulating a medium scale mixed farming pattern of wet and dry crop cultivation plus animal husbandry--encouraged the development in Modjokuto of the classical Central Javanese pattern by recreating the environment to which it is adaptive. By utilizing the Javanese-owned land in a monocultural manner and reserving diversification of capital intensive commercial "waste" to lands where peasant living patterns were not directly involved, the plantation companies encouraged an essentially anti-developmental form of land use on the part of the Javanese. It was (and is) anti-developmental despite the great diversification of crops, because it implied a steady increase in labor intensification (and so of population density) up to some high and probably still unreached limit and a maintenance of the largely uncaptialized, two and half to five acre "liliputian" farm characteristic of so much of Java.

The close and careful control over the growing of the cane upon which the mills insisted also had a stultifying effect on the peasant economy. The undeniably improved efficiency of this sort of vertical integration was gained at the cost of a tendency to reduce the landowning peasant's role to that of a passive rentier living mindlessly off the proceeds of his sugar rents. The planning of land utilization became the business of the plantations, destroying peasant initiative: "in place of peasant ingeniousness came a new coolie submissiveness," to quote the Dutch economist G.H. van der Kolff. Even the peasant's initiative in planning the third half of his land not at the moment in sugar was interfered with, for the companies paid premiums to peasants who would leave the land fallow in the off period. Such a system is not likely to produce what Van der Kolff rightly regards as one of Java's greatest needs: a "virile yeomanry." Rather, it would seem likely to produce an effete gentry whose increased incomes were drained off into luxury consumptions. And from reports of the fine furnishings, fancy clothes and elaborate homes some of the sugar parvenus provided themselves with, that is what, in part, occurred.

Only in part, however. That the rentier reaction was not the only one, not even, perhaps, the dominant one, is indicated not only by the growing cultivation, premiums and all, of non-rice crops on the terrace in the dry monsoon, but also by the increasing interest of peasant in growing their own cane. Plantation and Government policy opposed this development strenuously and in 1920 a law was passed forbidding the purchase of free-hold cane by the mills. Even so, the spontaneous Javanese interest in independent sugar cultivation nearly doubled the value of free-hold cane from 1926 to 1928, most of the output going to Javanese-run mills producing crude sugar on a small scale for domestic consumption.

Thus there is evidence that, given a free hand, a certain sector of the new landholding "middle class" would have reacted to the stimulus provided by the sugar mills with an entrepreneurial rather than a rentier pattern of economic behavior. In fact, a more open system would have tended to select the frugal, shrewdly calculating and economically imaginative sort of "yeoman" out for success rather than the coupon clipping sort of "country gentleman" the renting system favored.

Having hampered the growth both of a larger scale, more efficient farm unit, as well as of a more self-reliant, aggressive farm manager to run it, both of which their economic activities were in fact tending to stimulate in spite of their policies, the plantations also followed a labor policy which hampered the growth of a permanent proletariat. By keeping their work force maximally seasonal, the Dutch prevented the formation of a "professional" working class wholly within the "capitalist" sector of the dual economy, avoiding, in part, agitation by such workers for better treatment as workers, rather than as colonial dependents. Further, the "spectroscopic" organization of the sugar industry (pure caucasoids in the managerial roles, pure mongoloids in the unskilled roles and mixed Eurasians in between) prevented the cleverer and more energetic Javanese from important advances upward through the industry, so dampening permanent motivations to activities outside of subsistence agriculture. The pattern of shifting land rented, so as to rent only one-third of any single peasant's land in any one year had a similar effect, for it allowed marginal peasants to hang on much longer as part-time cultivators, thus weakening the pressures on the mills to raise wages, to

stabilize their labor force or to finance relief measures for unemployed workers, who, it was argued, could always go back to the land. By keeping the marginal peasant with one foot in the rice terrace and one in the sugar mills, the Dutch managers were able to keep the Javanese worker's share of the returns from the increasing productivity of the sugar industry minimal and their own profits maximal.

In sum, the policies of the plantation companies had an anti-developmental effect upon the Javanese agrarian economy in the Modjokuto area, and these policies were not implicit in the capital intensive form of operation the companies followed, but were, in fact, rather in opposition to the more stimulating effects they were tending to have on the peasant economy; they were intended to dampen rather than enhance the intrinsically transformative effects of capitalist economic organization on a traditional structure. The policy of segregating the Javanese social structure from the effects of Western enterprise was not so much a result of the obstacles presented to social change by a high and growing population, great labor intensification and a lack of "capitalist spirit" as it was one of the primary factors involved in the progressive strengthening of these admittedly formidable obstacles. It has been a combination of traditional social structure able to distend so as to absorb a much increased personnel without unmanageable internal strain; a form of intensive, near horticultural agriculture on excellent, well-irrigated soils which could almost indefinitely provide at least a slight marginal return for an added unit of labor; and a form of commercial

agriculture which shoved a large percentage of its costs off on to the village economy without allowing that economy to share more than minimally in the increased returns, which has produced the present rigid, overcrowded, undynamic situation. Not, of course, that the sugar plantations caused the population rise: forms of economic production and population are, at least in the short run, fairly independent of one another and result from constellations of different variables. It is merely that, given the rising population, the sugar plantations, which were the chief dynamic factors in the situation followed a mode of operation which led not to a turn toward self-sustaining development, but to stasis on a "higher" level. Before the development of the sugar industry in the Modjokuto area, a fairly stable equilibrium seems to have existed between a relatively low (for Java) though growing population and a relatively low (also for Java) level of agricultural production. The sugar industries with their policies made possible, in about thirty years, the establishment of a new equilibrium with a much higher population, probably about the same per capita income, and little increase in peasant capital (aside from irrigation facilities) or skills, a pattern of socio-economic change, J. H. Boeke, the Dutch economist, has aptly called "static or stationary expansion."

In any case, it seems clear that in any discussion of the future development of the Modjokuto region, and other regions of Java as well, the role of commercial, "capitalist" agriculture must certainly be a central concern. One naturally asks: how much of the pre-war result of the contact of plantation agriculture and village life was inherent

in capital-intensive agriculture as such, and how much was a product of the political context in which the contact occurred? Is a more beneficent role in the process of social change possible for plantation agriculture under altered political conditions, or is plantation agriculture an inherently "anti-welfare" form of economic activity?

But the term "plantation agriculture," taken as a simple whole, conceals elements which need to be distinguished before one can talk meaningfully about its possible role in Modjokuto's future. Following Sir Alan Pim, we might distinguish three main stages in the supply of any agricultural product to a distant consumer: the cultivation of the plant, its processing and its marketing, noting that "at each of these stages the rival systems of plantation and peasant production have relative advantages and disadvantages." In the pre-war period, the vertical integration policies of the plantation companies kept these three stages under unified, European, control, a policy which, as we have emphasized, maximizes the contrast between the "capitalist" and "pre-capitalist" spheres of activity. Consequently, one might ask whether dissolution of the tight bond between cultivation, processing and marketing might make for a more workable relationship between peasant and commercial agriculture. Particularly in the matter of cultivation it has been argued that a division of labor in which peasant organization--cooperatives, unions, etc.--were mainly responsible for cultivation and sugar companies for processing would lead to a healthier situation.

The question involved in such a re-organization is, of course: how far must efficiency fall? If free-hold cane growing is combined with highly capitalized milling will the low output and poor quality

of the former make the latter unable to justify its high fixed costs? Largely, this depends upon whether the technical skills of cultivation heretofore associated with the mills can be transferred to the peasantry, or, in the short run, that a mode of cooperation between the mills and peasants organized in cooperatives, unions and the like can be worked out which will allow the skills and capital of the sugar technicians to be effectively applied to the land of the peasants without reducing the latter simply to passive pawns in the process. If democratic peasant unions can gain control over larger tracts of land and work out relations with the sugar industry which are mutually profitable to both groups, it is possible that the cost-cutting advantages of scientific management and capital intensification might be effectively combined with peasant freedom and progress.

That this is not mere utopian fantasy, is evidenced by the fact that just this sort of development has begun to occur, as yet not to any important degree in Modjokuto itself, but in the next two or three subdistricts to the northwest of it. At least two sorts of program are in operation in these villages, one somewhat more conservative than the other. In the more conservative case, a peasant organization rents land from its members which it then rents in turn to the sugar mills. Thus, the organization acts as a go-between for the peasants, but the actual peasant participation is only slightly greater than before the war. In the second program, sugar is grown by the richer peasants, a few of whom have as much as a hundred and fifty acres of land, under the supervision of the mills working through a Government sponsored and regulated peasant co-op. The co-op makes the price

contract with the mills, gets an advance, is responsible for delivery and attempts to insure quality, partly by permitting the sugar managers to advise the peasants, inspect the cane in the fields and so forth.

Nevertheless, this is not a brief for the sugar industry. Whether or not, and how far, the sugar industry can or ought to be revived, depends on a host of economic and other factors--demand, market organization, costs, possibilities and political practicabilities of food imports, etc.--which I do not wish to prejudge. I have used the sugar industry merely as an example of a type of industry processing primary products which seems to me to have an important role to play in the development of the Indonesian economy. Like generals planning for the last war, "underdeveloped economists" have a tendency to plan for the last industrial revolution. Sugar is not, by far, the only processing industry which can be developed on the basis of crops cultivable in Javanese terraces and gardens: soya, coconuts, palm oil, kapok, tobacco, coffee, cacao, fibres of various sorts, and many other crops offer possibilities for such industries, particularly if more capital can be invested in scientific studies of tropical agriculture and of technological methods to process the output. Whether it be soft drinks, candy bars, cigarettes, soup, soya-bean cake or kapok-filled pillows, a non-exploitative integration between an advanced technology and Javanese primary production in agriculture is not without possible significance for the future growth of the Indonesian economy.

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