

INSTITUTE OF CURRENT WORLD AFFAIRS

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Malayan Rubber:  
Which way will it bounce?

12 Road 5/35  
Petaling Jaya, Selangor  
Malaya  
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Richard H. Nolte  
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366 Madison Avenue  
New York 17, New York

Dear Mr. Nolte,

The wealth of modern Malaya is based primarily on the production of natural rubber. Plantations of rubber trees cover about 4 million of Malaya's 5.5 million total planted acres. The milky latex that flows from these trees directly employs 30% of the labor force, accounts for more than half the value of the country's exports, and about a quarter of its gross domestic product. Throughout the last decade the export duties on rubber have provided about 20% of the federal government's annual revenues. The Federal Land Development Authority, working to make a sizable dent in the land hunger of Malaya's peasants, opened over 50,000 acres of rubber schemes in 1961, giving more than 500 families a 10 acre plot of planted rubber land. This is only the direct account, of course. The rubber industry annually pours millions of dollars into the national economy, strengthening demands for a wide range of other goods and services. High rubber prices mean more of everything from movies to food and clothes to automobiles for Malaysians. For Malayan and foreign investors, high rubber prices mean high - even fabulous - profits.

In synthetics the natural rubber industry today faces a severe threat to its very existence. Until a few years ago natural rubber had certain unique qualities that made it superior to any synthetic for heavy duty truck and airplane tires. Today this is no longer true. A breakthrough produced new stereo-regular rubber that reproduces all the desirable qualities of natural rubber, and at competitive prices. The pessimist sees in this the virtual elimination of the natural rubber industry. Even the optimist sees rough days ahead for natural.

There can be no doubt that if the natural rubber market collapsed today the result would be chaos in Malaya. What are the prospects of the Malayan industry meeting the challenge from synthetics, or alternatively, of redirecting its productive capacities to more profitable crops? Perhaps a look at the history and structure of the Malayan industry will help to provide some answers to these questions.

Seedlings of the Hevea brasiliensis tree were first introduced into Malaya in 1877 and planted in Singapore's botanical gardens, which have contributed considerably to the entire development of tropical agriculture. In 1888 the gardens came under the direction of H.N. Ridley, a man of great imagination and energy. He soon became known as "mad Ridley" and "rubber Ridley" for his intense efforts to induce British planters in Malaya to grow rubber. At that time pepper, coffee and sugar were Malaya's main plantation crops. By 1910 the failure of the coffee market and the introduction of the automobile tire had transformed Malayan plantations almost completely into rubber plantations.

The boom prices of 1910-11 turned millions of acres into rubber and

drew thousands of people into the industry. British, French and American firms came to carve out vast plantations. Chinese and Indian Chettiars planted medium sized holdings. Even the Malay peasant responded like the epitome of the economic man by planting his few acres (generally less than 10) in rubber, despite the costs of planting and the necessity of waiting seven years before the rubber tree can be tapped. In 1910 only 33,000 long tons of rubber were exported from Malaya. By 1920 the figure was 200,000; it doubled by 1930, and today Malaya exports almost 800,000 tons annually.

In the case of Malayan rubber, all the unique qualities of western enterprise were combined. The use of scientific research, the key role of the entrepreneur as innovator, the great capital-mobilizing capacity of the joint stock company, and the demand created by the development of other industries, all played a crucial role in the development of this new industry.

From the beginning the Malayan rubber industry has been dominated by the western-owned estate. (Technically estates are places over 100 acres, places under 100 acres are called smallholdings.) Just before the war 1.2 million of the 1.9 million acres in estates were owned by European companies. One million of these acres were in estates of more than 1,000 acres each. The dominance of the estate has been more political than economic, however. Throughout the life of the industry almost half the acreage and production have been in the smallholder category. Despite this numerical near balance, until recently all the government legislation, all government assistance, and all the technical assistance organized by the industry itself have been for the estates and have discriminated against the smallholder.

The slump starting in the 1920's drove rubber producers to institute two protective agreements (one in the 1920's and one in the '30's) to restrict production and planting. Though this did push up prices somewhat, it created a strong hostility in American rubber consumers and drove them to search for substitutes and finally for synthetics. In Malaya the effects were even more onerous. Both agreement schemes gave preference to the estates and discriminated against the smallholder, allowing them a far smaller proportion of the market than warranted by their proportion of total acreage or potential production. The agreement of the 1930's would actually have eliminated the smallholder altogether had it not been disrupted by the strong demands of the war-time period.

The industry organized a Rubber Research Institute (RRI) in Malaya in the 1920's. Since the RRI is financed by a cess on exports, the smallholder has paid between a third and a half of its costs, but he has received precious little for his contribution. The Institute's research has been heavily estate oriented, concerned only with the chemistry and biology of rubber, not with problems of management or economics. Until very recently almost all of the Institute's extension activities have been for the estates. Even when the smallholder was able to get some advice, it was often more suited to the estate than to his size of holding.

There has always been a phenomenal ignorance of smallholder production, even on the part of officials responsible for this sector. Even today the exact acreage of smallholdings is not known. It has always been believed that the smallholder is less efficient than the estate. However, between 1929 and 34, when there were no restrictions, the smallholder was found to obtain higher yields per acre than the estate. The first restriction scheme was based on the assumption that the smallholders produced about half as much as the estates produced. For the few years without restrictions, however, it was found that the smallholders actually produced as much as the estates. Even today little

is known of the economics of smallholder production. In the past two years the University of Malaya's college of agriculture has begun some of the first systematic surveys of the smallholder, and even these are on a very limited scale.

The government's department of agriculture has never been concerned with rubber production. A neat division of labor has given agriculture responsibility for food production and the RRI responsibility for rubber. This was an efficient arrangement for a colonial plantation economy. Government was concerned with keeping food costs low so that labor costs could be kept down, making the labor-intensive plantation economy more viable.

There have been some important changes since independence. There are now no restriction schemes to discriminate against the smallholder. The entire restriction orientation has been replaced by an emphasis upon increasing production. Government provides financial assistance for replanting and new planting, and the economic disadvantage of the smallholder is recognized by giving him a larger grant for replanting than the estate obtains. The problem is that the estate can replant part of its acreage, maintaining production and thus income on the rest. Because of the size of his holding, the smallholder generally has to replant the entire plot and thus has to forego production and income for seven years. The RRI has been pushed to increase its smallholder advisory service and it has just been reorganized to include positions for two economists (as yet unfilled). Its research orientation is still primarily biological, however, and includes none of the problems of farm management, economics, product development or marketing that would normally mark a modern industry. Until the recent breakthrough of synthetics, of course, none of this research was really necessary, at least for the estate. Rubber held a monopoly of a physical property and it sold itself.

The one really dynamic aspect of the industry has come from the biological research of the RRI. High yielding varieties of rubber trees have been developed that will give three or four times as much rubber as the old unselected trees. This makes replanting a vital necessity. Approximately 1.2 million of the 1.9 million estate acres have been replanted with the new high yielding varieties. It is not known precisely how many smallholders have replanted, but it does not seem that the figure would include more than half a million acres, or about a quarter of the total smallholder area.

The industry has continued to rely upon high yielding trees to meet the competition from synthetics. This is more a residue of past orientations than a rational assessment of the current problem, however. Increasing yields per acre primarily reduces land costs, which are only about 5% of total costs. The largest item of cost is labor, accounting for about 65%, and there has been almost no concern with cutting labor costs. The major reason for this seems to be the high profit margins that currently obtain. Estate costs are a closely guarded secret, but it seems that about M 25¢ per pound is a close estimate. The current Singapore market price is M 75¢ per pound, giving something in the neighborhood of 200% profits. This is certainly not the kind of margin that forces the producer to search for or to invest heavily in cost-cutting devices.

The point of all this is simply that the political dominance of the western-owned estate has tied the natural rubber industry to its current labor intensive form. Natural adjustments of the industry's entire structure have been precluded by the early use of restrictions that have kept alive what some observers have called the less efficient producers and methods of production.<sup>1</sup> Industry

1. See P.T. Bauer, The Rubber Industry, (London, 1948).

control of research has precluded the development of really radical innovations and has served restricted interests. The failure of government to be responsible to the majority of its producers has led to discrimination against what may well be the more efficient producers and the more efficient organization of production. The future looks dim for Malayan rubber because there is literally no place in the modern world for labor-intensive plantation forms of production. While cotton is picked by machine and Hawaiian pineapples are grown to fit the can, the Malayan rubber tree is still laboriously cut into by the individual tapper to release the flow of latex.

Western agriculture was mechanized largely under the pressure of increasing labor costs. Malayan rubber faces this pressure now, and it will certainly increase. The plantation workers' union is the strongest in Malaya and though that does not make it very strong, it is certain that the general process of Malaya's economic growth will raise labor costs in all sectors. Malaya's problem is exacerbated, however, by the competition from synthetics. It is quite certain that the long run trends in synthetics will be decreasing costs. There is nothing like the power of technology. The breakthrough that brought the new stereo regular rubber cut some synthetic costs in half, and this was not an isolated event. Even as I am writing this a Malayan newspaper announced a M 7 $\frac{1}{2}$  cut in synthetic prices. The forecast here is that by 1970 the Singapore price will be down to 55¢ for natural. Against this is the rising world demand for rubber and the increase in yields that can maintain the total value of the industry even in the face of falling prices. For the moment these two facts give great comfort to Malayan producers. The pessimist sees in these facts the sure sign of the death of the industry, because it keeps the industry from modernizing itself. All major consumers of rubber are now turning to the home production of synthetics, for strategic as well as economic reasons. It may well be that until the time of final burial the Malayan rubber industry will be kept happy by palliatives that will not even approach a basic solution to the problem.

Perhaps for another generation rubber will continue to pay for its production in Malaya. The average life of the rubber tree in tapping is about 35 years. I would guess that approximately by the year 2000, it will no longer be profitable to replant the Hevea brasiliensis in Malaya.

The direction in which Malaya will reorganize its agriculture remains to be seen. Unfortunate residues of the old policy are seen in the government's continued concern with rice production, although almost any alternative crop is more economic. It is also seen in the predilection to search for another single crop that can take the place of rubber as the export earner. Many people are arguing here that more attention must be turned to diversified food production. The aim should be to produce a class of modern farmers sufficiently organized, educated, and backed by research and extension to be able to adjust themselves to any market condition and to obtain continued increases in productivity. This must also mean a decrease in the number of farmers and an increase in the importance of manufacturing in the country's economy. Despite Malaya's success in rural development, perhaps because of it, the more radical development of a modern economy is not being advanced rapidly. In part this is because of the currently comfortable rubber position. It would be ironic indeed if the continued wealth provided by rubber not only prevented that industry from saving itself, but also prevented the total economy from bracing itself to withstand the shock of the industry's death, if and when death does come.

Sincerely,

  
Gayl D. Ness