

# THE PHILIPPINE RUBBER INDUSTRY

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## CONTRIBUTIONS OF THE INDUSTRY TO PHILIPPINE ECONOMIC DEVELOPMENT

The Philippine rubber industry in the agricultural sector has contributed to Philippine economic growth as early as 1900 when some natives of the southern islands cut down large number of forest trees and vines in order to extract gutta percha and some rubber, which they bartered to the Chinese, who in turn exported the products to Singapore. The Philippine rubber manufacturing industry has also helped the growth of Philippine manufacturing industries since 1933 when the first rubber shoe factory in Sta. Ana, Manila was established.

### *Contribution of Rubber to Employment*

Widespread unemployment or under-employment is a notable feature of the economies of developing countries, of which the Philippines is one.

The rubber industry has continually been one of the major sources of additional employment in the Philippines. The contribution of the rubber industry to employment comes from both the industrial and the agricultural sectors.

*Industrial Sector.* The data showing the trends of employment and payrolls in the rubber manufacturing industry for 1956-1961 can be seen from Table I. Table I shows that, since 1956, the number of employees and the amount of payrolls in the rubber manufacturing industry have been increasing. In 1956, the number of employees and the amount of payrolls in 17 rubber manufacturing establishments were 2,581 and ₱3,792,000, respectively. But in 1961 the number of employees and the amount of payrolls in 45 manufacturing establishments increased to 6,186 and ₱14,489,000, respectively. Owing to the fact that not all rubber manufacturing establishments reported their number of employees and the amount of payrolls made by them to the Bureau of the Census and Statistics, we can safely assume that the actual number of employees and the amount of payrolls in 1961 exceeded these figures.

The percentage of employment and payrolls of the rubber manufacturing industry to the total employment and payrolls of all the Philippine manufacturing industries can be seen from Tables II and III.

*Agricultural Sector.* At the present time, data on employment in the rubber industry in the agricultural sector are not available. But from the time of preparing the nursery site by felling trees and removing the re-

TABLE I  
TOTAL EMPLOYMENT AND PAYROLLS OF THE RUBBER MANUFACTURING INDUSTRY  
FROM 1956-1961

(Employment data are averages for the year; details do not always add up to the totals because of rounding)

Year	Number of establishments	Total employment	Working owners and unpaid family workers	Production and related workers		All Other employees		Total payrolls for paid employees (P1,000)
				Number	Payrolls (P1,000)	Number	Payrolls (P1,000)	
1956	17	2,581	7	2,286	2,845	287	946	3,792
1957	35	3,678	14	3,086	5,082	577	3,000	8,082
1958	36	4,828	17	3,937	6,373	874	3,998	10,371
1959	34	5,219	13	4,254	7,799	952	4,831	12,630
1960	34	4,986	15	3,944	9,058	1,027	4,886	13,944
1961	45	6,186	9	—	—	—	—	14,489

SOURCE: *Annual Survey of Manufactures, 1956-1960*  
Bureau of the Census and Statistics  
*Economic Census of the Philippines, 1961, Advance Report in Manufacturing, Vol. III*; Bureau of the Census and Statistics for 1961 data.



maining roots and stumps to budding operations, clearing the land for planting, lining, holing, planting, supplying — the replacement of plants which have died after having been planted in the plantation, weeding, pruning, tapping operation, sheeting, drying of rubber in smokehouse, inspection, grading and packing, we can visualize the job opportunities and income that the whole process has given to increase the volume of employment and amount of income in the Philippine economy.

TABLE II  
THE PERCENTAGE OF EMPLOYMENT OF THE RUBBER  
MANUFACTURING INDUSTRY TO THE TOTAL  
EMPLOYMENT OF ALL THE PHILIPPINE  
MANUFACTURING INDUSTRIES  
From 1956 to 1961

Year	Total Employment in all industries	Employment in rubber industries	Per cent of total employment
1956	205,809	2,581	1.3
1957	223,551	3,678	1.6
1958	228,307	2,828	2.1
1959	238,666	5,219	2.2
1960	248,781	4,986	2.0
1961	263,053	6,186	2.6

SOURCE: *Annual Survey of Manufactures, 1956-1960*  
Bureau of the Census and Statistics  
*Economic Census of the Philippines, 1961, Advance Report in*  
Manufacturing, Vol. III; Bureau of the Census and Statistics  
for 1961 data.

TABLE III  
THE PERCENTAGE OF PAYROLLS OF THE RUBBER  
MANUFACTURING INDUSTRY TO THE TOTAL PAYROLLS OF  
ALL THE PHILIPPINE MANUFACTURING INDUSTRIES  
From 1956 to 1961

Year	Total payrolls in all industries	Rubber industry payrolls in	Per cent of total payrolls
1956	331,113,000	3,792,000	1.1
1957	369,341,000	8,082,000	2.2
1958	397,526,000	10,371,000	2.6
1959	443,526,000	12,630,000	2.8
1960	471,074,000	13,944,000	3.0
1961	507,258,000	14,489,000	2.9

SOURCE: *Annual Survey of Manufactures, 1956-1960*  
Bureau of the Census and Statistics  
*Economic Census of the Philippines, 1961, Advance Report in*  
Manufacturing, Vol. III; Bureau of the Census and Statistics  
for 1961 data



The Philippine rubber industry does not only create employment and income in the rubber industry but also increases the level of employment, income and output of the other sectors of the economy. This is because the income created by the rubber industry increases the production of the industries producing goods consumed by income recipients of the rubber industry. The increase in production of the industries producing goods to meet the demand created by income recipients of the rubber industry also means an increase in employment, income and output of the industries mentioned above.

#### *Contribution of Rubber to Capital Formation*

It is sometimes said that a vicious circle constricts underdeveloped countries in their attempts to raise their low level of capital: low national income means a negligible rate of saving and capital formation; a low rate of capital formation means low productivity in agriculture and manufacturing which, in turn, leads to a low national income. The low level of real income is a reflection of low productivity which, in turn, is due largely to the lack of capital, therefore, if capital formation in underdeveloped countries is increased, their level of productivity and income will also increase. From the standpoint of capital formation for Philippine economic development, the Philippine rubber industry in both industrial and agricultural sectors has also made a significant contribution.

The economic contributions of the rubber industry to the Philippine economy's development on capital formation arise from two sectors.

*Industrial Sector.* The data on capital stock of the rubber industry in the industrial sector can be seen from Table IV.

Table IV shows that total book value of fixed assets increased from ₱7,605,000 in 1956 to ₱46,330,000 in 1960. The increase in total book value of fixed assets from ₱7,605,000 in 1956 to ₱43,996,000 in 1957 was partly due to the establishment of Goodyear and Goodrich Rubber Tire Companies during 1956. In 1957, the total capital expenditures reached the peak of ₱20,562,000. Total capital stock in rubber manufacturing industry increased from ₱8,093,000 in 1956 to ₱54,142,000 in 1960.

In general, the figures shown in Table IV are not very consistent. For example, the decrease in total capital stock from ₱64,558,000 in 1957 to ₱49,259,000 in 1958 and ₱48,932,000 in 1959 might have been due either to depreciation or to the fact that some rubber establishments have not reported their fixed assets and capital expenditures properly to the Bureau of the Census and Statistics, or both. The increase in fixed assets, capital expenditures, and the resulting increase in total capital stock in the rubber manufacturing industry will normally mean an increase in efficiency



and, consequently, an increase in income of the rubber industry in the industrial sector.

*Agricultural Sector.* Data on capital stock of the rubber industry in the agricultural sector are not available. But from the 1964 data derived from the Bureau of Agricultural Economics, Department of Agriculture and Natural Resources, showing 19,760 hectares of land under rubber cultivation, 1,536,200 of rubber trees under tapping operation and production of 6,002,000 kilograms of rubber, we can imagine that quite a big amount of capital goods must be required to carry out the aforementioned activities. These capital goods come in the form of tapping equipment and tools, buildings for employees, plants for processing and making of rubber sheets, rolling machines for milling the rubber sheets, smokehouses for drying of rubber, roads, transportation equipment, equipment and tools necessary for natural rubber production and tools of various kinds. When more capital goods are accumulated in the agricultural sector of the rubber industry, the productivity of the industry in this sector also increases. This also means that the income of the industry in the agricultural sector also increases.

TABLE IV  
CAPITAL FORMATION OF RUBBER MANUFACTURING  
INDUSTRIES FROM 1956 to 1960

Year	Total Book Value of Fixed Assets (January 1)	Total Capital Expenditures During the Year	Total Capital Formation in Rubber Manufac- turing Industry
1956	₱ 7,605,000	₱ 488,000	₱ 8,093,000
1957	43,996,000	20,562,000	64,558,000
1958	44,933,000	4,326,000	49,259,000
1959	45,092,000	3,840,000	48,932,000
1960	46,330,000	7,812,000	54,142,000

SOURCE: *Survey of Manufactures, 1960*, Bureau of the Census and Statistics.

On the basis of these considerations, we can conclude that capital formation in the rubber industry in both industrial and agricultural sectors has helped increase the efficiency, productivity and income of the Philippine economy as a whole.

#### *Contribution of Rubber to Foreign Exchange*

The rubber industry of the Philippines in both industrial and agricultural sectors has helped decrease the outflow of foreign exchange by producing more natural rubber and manufactured rubber goods. Production of natural rubber rose from ₱415,530 kilograms valued at ₱477,020 in



1929 to 6,002,000 kilograms valued at ₱6,724,100 in 1964. On the other hand, the value of production of manufactured rubber goods in 1953 was only ₱11,257,850, but in 1963, it increased to the peak of ₱154,594,16. The production of both natural rubber and manufactured rubber goods was for domestic consumption, although some of the manufactured rubber goods were exported. The value of export of rubber manufactures in 1962 and 1963 was only ₱3,704 and ₱1,638<sup>1</sup>, respectively.

Without the domestic production of natural rubber and manufactured rubber products, all the crude rubber and manufactured rubber goods required by domestic consumption must be imported. This will mean that a good amount of foreign exchange must be spent to import them. The production of crude rubber has helped decrease the rate of increase in crude rubber imports. Also, the production of manufactured rubber products has accounted for the decrease in the importation of manufactured rubber goods. Consequently, the rubber industry in both industrial and agricultural sectors has become one of the savers of foreign exchange for the Philippine economy as a whole. The foreign exchange saved by the rubber industry can be utilized to import urgently needed capital goods to increase the efficiency of productivity, and income of the Philippine economy as a whole. It follows that from the standpoint of foreign exchange, the rubber industry has contributed significantly to Philippine economic development.

#### *Contribution of Rubber to the Development of Allied Industries*

In addition to providing employment and income, increasing capital formation and preventing the outflow of foreign exchange for the Philippine economy as a whole, the rubber industry not only stimulates the growth of allied industries supplying equipment, tools, machinery, chemicals and necessary materials for the production of natural rubber and manufactured rubber products, but also the growth of those allied industries depending upon rubber products for their basic materials or indispensable factors of production. This is because the rubber industry creates both backward linkage effects, i.e., every non-primary economic activity, will induce attempts to supply through domestic production the inputs needed in that activity and forward linkage effects, i.e., every activity that does not by its nature cater exclusively to final demands, will induce attempts to utilize its outputs as inputs in some new activities.<sup>3</sup>

In the production of natural rubber, for example, fertilizers, tapping knives, metal spouts to guide the flowing of latex into the cup, the rubber cups themselves, collection cans, coarse sieves made of perforated plates

<sup>1</sup> Bureau of the Census and Statistics.

<sup>2</sup> Albert O. Hirschman, *The Strategy of Economic Development* (New Haven: Yale University Press, Inc., 1958), p. 100.

<sup>3</sup> *Ibid.*



in order to remove large pieces of bark and dirt, leaves or pre-coagulated rubber, the screening materials, coagulation pans, chemicals such as liquid Ammonia solution (Ammonium Hydroxide) to prevent the latex from coagulating before it can be prepared and coagulated in the factory, acetic acid and formic acid for coagulation, hand rollers used by small planters for milling rubber sheet and machines for making rubber sheet in big rubber plantations, and smokehouses for the drying of rubber sheets are needed. Consequently, an increase in the production of natural rubber also means expansion of the allied industries that supply the above-mentioned materials, equipment, tools, machines, chemicals and smokehouses.

In the case of manufacturing rubber products, such as tires and inner tubes for bicycle, automobile, truck, tractor and aircraft, the major products of the rubber industry, aside from raw rubber, other ingredients are required. These ingredients are, for example, rayon cord, wire pigments, oils, zinc oxide to act as vulcanization accelerators, sulphur to be vulcanizing materials, stearic acid to promote the vulcanization, carbon blacks to increase the stiffness, hardness, strength and resistance to abrasion and tear of rubber stocks,<sup>4</sup> and other ingredients necessary for the manufacture of rubber tires and inner tubes. An increase in the production of tires and inner tubes will automatically increase the production of the allied industries that produce the above-mentioned ingredients.

The Philippine rubber industry also helps the growth of other allied industries that depend upon local rubber products for their materials. This is because rubber products manufactured domestically are cheaper and more steady in supply than those imported. Owing to cheaper supply of local rubber products, the allied industries that depend on local rubber products for their basic materials will have lower cost of production. On account of lower cost of production, the allied industries can lower the prices of their products to increase demand. More demand means more production. This is how the Philippine rubber industry can stimulate the growth of allied industries that depend on local rubber products for their basic materials.

The allied industries that depend upon local rubber products for their basic materials are, for example, the shoe industry, the furniture industry, the bicycle, automobile, truck, tractor and aircraft industries. The growth of these allied industries will be retained if they have to depend on more expensive rubber products from foreign countries, or in an unsteady supply of them.

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<sup>4</sup> A. T. McPhearson and Alexander Klemin, Eds., *Engineering Uses of Rubber* (New York: Reinhold Publishing Corporation, 1956), pp. 288-295; R. Norris Shreve, *The Chemical Process Industries* (New York: McGraw-Hill Book Company, Inc., 1945), pp. 773-783.



We can, therefore, conclude that the Philippine rubber industry, through its backward and forward linkage effects on related sectors of the economy, enables the country as a whole to achieve a faster rate of economic growth.

#### *Contribution of Rubber to Product Diversification*

The dependence of certain economies, especially the underdeveloped countries of the world, on the production and export of very few agricultural or mining products is precarious because adverse changes in the world market for one or a few commodities may undermine to a very great extent the economic position of the countries. The prices of primary commodities fluctuate more than the prices of industrial products because the supply of primary commodities is inelastic. Furthermore, they are sold at commodity markets where prices fluctuate from day to day<sup>5</sup>. In addition to international and national measures of commodity stabilization like international quota agreements, international buffer stock schemes, state marketing schemes, export duties on primary commodities, the primary exporting countries themselves can also gradually reduce export vulnerability by diversifying their production and trade and thus becoming less dependent on a narrow range of export commodities. The production of a wider range of commodities tends to reduce the importance of traditional exports proportionally and may also reduce it absolutely if a part of the raw material formerly exported is utilized by newly developed domestic industry, or a part of the land formerly used to grow export crops is used for food or other agricultural products for domestic consumption<sup>6</sup>. Another argument for diversification is the uncertain long-run prospects of all primary commodities. Technological innovations, increased productivity and output in the agricultural sectors of the industrialized importing countries have been developing continuously. This may be partly due to a desire for self-sufficiency in agricultural products. Besides, the demand trends for primary exports may not be able to keep pace with the growth of world trade, or to provide adequate income for the growing populations of the primary exporting countries. Consequently, to push exports of primary commodities in the face of uncertainty about future world demand of primary commodities would not be a promising line of long-run development. If it is plausible to assume a generally-less-than-unitary-price elasticity of demand for crude foodstuffs and raw materials, it seems reasonable also to conclude that, under conditions indicated, economic development in underdeveloped countries must largely take the form of increased diversification of productions for domestic markets.

<sup>5</sup> Stephen Enke, *Economics for Development* (Englewood Cliffs, N.J.: Prentice-Hall, Inc.), 1963, p. 404.

<sup>6</sup> "Diversification," *United Nations Economic Survey of Asia and the Far East*, 1957, p. 162.



The Philippines is a primary exporting country. Its traditional export commodities are coconut products, sugar, abaca, iron ore, logs, and lumber. Consequently, there is a need for the Philippines to adopt the policy of diversification in agriculture, and of the economy as a whole, so as to reduce its vulnerability to export instability, thereby achieving a faster rate of economic development.

From the standpoint of diversification in agriculture in the Philippines and of the Philippine economy as a whole, the Philippine rubber industry has helped the Philippine economy to reduce its vulnerability to export fluctuations and decrease the importance of traditional exports absolutely when the Philippine changed her position from an exporter to an importer of crude rubber since 1956. This means that local production of natural rubber formerly exported has been entirely utilized by domestic rubber manufacturing industries since 1956. From these considerations, it is evident that the existence of the rubber industry is not only helping the Philippine economy to reduce its vulnerability to export instability, but is also generating industrial development which to a large extent is contributing to Philippine industrialization.

#### PROBLEMS OF THE PHILIPPINE RUBBER INDUSTRY

The essential problems confronting the rubber industry today may be classified as follows:

*The cost of developing rubber plantations.* The cost of developing rubber plantations to maturity is one of the important problems of the rubber industry in the agricultural sector. This is so, for in developing rubber plantations to maturity, not only a large amount of capital must be invested but also a waiting period of at least 6 to 7 years, or even more, is required before any return can be realized from the rubber trees. Consequently, anyone who is interested in developing a rubber plantation must be able both to acquire large amounts of capital and to find his income from another source during the waiting period. Otherwise he has to divert his capital to other kinds of investment where return can be realized earlier.

In addition, a relatively large piece of land is required for the plantation because of the spacing of rubber trees. A good planting distance for Hevea rubber trees is 3.40 meters by 6 meters (11 by 20 feet).<sup>7</sup>

Rubber plantations are said to become mature when they become tappable, although they do not reach full production until some years afterwards. Thus the developing costs are calculated from the time the nursery is planted until the trees become tappable some six or seven years

<sup>7</sup> W. E. Klippert, *The Cultivation of Hevea Rubber on Small Plantations*, The Goodyear Rubber Plantations, Inc., Akron, Ohio (n.d.), p.14.



later. Normally, one should count on a six-to-seven year waiting period, before the rubber trees reach tappable age, unless experience has shown that a longer or shorter time is correct for the area being planted.

Costs to maturity vary greatly and are influenced by many factors, the most important of which are:

- a) Size of the planting
- b) Cost of labor
- c) Location and topography
- d) Productivity of the land

Small rubber planters can operate a small plantation without heavy investment in buildings, equipment and overhead charges which confront large plantations. Costs are increased by hilly or swampy land which requires terracing and drainage. Productive land which will produce tappable trees in four to five years instead of the usual 6 to 7 years also reduces the cost to maturity.

According to the Rubber Financing Plan of the Development Bank of the Philippines, in addition to land, the reasonable cost of developing rubber plantation to maturity for seven years in the Philippines is ₱1,500 per hectare for family-size farms (20 hectares or less), and ₱2,000 per hectare for plantation-size farms (over 20 hectares).<sup>8</sup>

The amount of ₱1,500 per hectare for family-size farms will be spent for purposes of clearing, burning, plowing, purchasing and planting of cover crops, nursery preparation and seed setting, planting and maintenance, budgrafting, weeding, purchasing fertilizers, farm chemicals for disease and pest control, and tapping equipment, etc.

The cost of developing rubber plantations to maturity for plantation-size farms is higher than for family-size farms because of overhead expenses such as construction and repair of plantation roads, bridges, canals, drainage ways, purchase and repair of machinery, equipment, transportation and processing units, fencing, plantation housing, and health service, etc. Although these expenditures may be present in family-size farms, the amount involved would be much less.

With reference to the appraisal of the Development Bank of the Philippines, the value of one hectare of land is ₱500, if the land is found suitable for rubber as to soil, climate, elevation, etc. and cleared of large trees.<sup>9</sup> From this we can conclude that the total cost of developing rubber plantation to maturity per hectare in the Philippines is ₱2,000 for family-size farms and ₱2,500 for plantation-size farms.

<sup>8</sup> "Rubber Financing Plan" (Minutes No. 38, 1964), Agricultural Dept., Development Bank of the Philippines, p. 1.

<sup>9</sup> *Ibid.*



In relation to the problem of high cost of developing rubber plantations to maturity, the Development Bank of the Philippines inaugurated the Special Financing Plan on rubber, sometime in 1956. Under the revised Rubber Financing Plan in 1964, a citizen of the Philippines or a corporation or partnership, 60 per cent of the capital of which is owned by Filipinos and who owns not less than five hectares of land suitable for the planting of rubber, can apply for loan from the Development Bank of the Philippines at ₱1,500 per hectare for family-size farms and ₱2,000 per hectare for plantation-size farms.<sup>10</sup> According to Pastor R. Villanueva, the amount of loan provided by the Development Bank of the Philippines is adequate to develop the family-size rubber plantation and the plantation-size rubber plantation to maturity, respectively.<sup>11</sup>

In order to promote the development of rubber plantation in the country, the Philippine government should encourage those who own land suitable for growing rubber, the prerequisite of the loan, by informing them that they can acquire adequate loan at 6 per cent interest per annum from the Development Bank of the Philippines, payable in 15 years and that the repayment of the annual amortization will commence at the end of the ninth year<sup>12</sup> after the rubber plantation has begun to yield substantial income. This would then solve the high cost of developing rubber plantations.

*Rubber replanting program to increase the yield of rubber trees.* The annual average yield per acre of rubber trees in the Philippines is approximately 526 lbs. This can be seen from Table I. In Malaysia the average annual output of small holdings is 350 lbs. per acre which is all that can be secured from most trees that are over 30 years old.<sup>13</sup> In the Far East, the original seedling varieties which still cover well over half of the total planted area produce about 400 lbs of rubber per acre per year. But on the replanted area of the large Malaysian rubber estates, the average annual output rises to over 800 lbs. per acre per year.<sup>14</sup>

From the foregoing, we can see that the yield performance of rubber trees in the Philippines is much better in comparison with the yield performance of the small holdings in Malaysia, the over 30-year-old rubber trees in the world and the original seedling varieties in the Far East. But if we take into consideration the yield per acre of more than 800 lbs. on the replanted acres of the large Malaysian rubber estates, the commercially

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<sup>10</sup> *Ibid.*

<sup>11</sup> Personal interview with Mr. Pastor R. Villanueva, Director of Region No. 8 of the Bureau of Plant Industry, sometime in Dec., 1964.

<sup>12</sup> "Rubber Financing Plan", *op. cit.*, p. 6.

<sup>13</sup> George Cyriax, "The Next Steps for Rubber," *Rubber World*, Vol. 150, No. 3 (June, 1964), p. 42.

<sup>14</sup> Charles F. Phillips, Jr., *Competition in the Synthetic Rubber Industry* (The University of North Carolina Press), 1963, p. 151.



TABLE V  
YIELD PER ACRE OF SELECTED RUBBER PLANTATIONS IN THE PHILIPPINES AS OF 1963

Producers	Area Planted (hectares)	Non-tappable (hectares)	Tappable (hectares)	Production (kilograms)	Yield in lbs. (per acre)
Small farmers	847	667	180	108,441	536
Goodyear Rubber Co.	980	552	428	290,462	604
Mangal Rubber	740	420	320	197,000	548
Menzie Agricultural Corporation	675	300	375	270,000	641
Mindanao Rubber Co.	510	344	166	66,443	356
U.P. Land Grant	2,303	855	1,448	762,482*	469
AVERAGE YIELD					526

SOURCE: U. P. Land Grant, *Annual Report for the Fiscal Year from July 1, 1963 to June 30, 1964*, pp. 10-12.  
Bureau of Plant Industry Report, Region No. 7, 1963.



available clones producing from 1,500 to 2,500 lbs. per acre in Malaysia, and the newer varieties at the Rubber Research Institute of Malaya experiment station yielding in excess performance of rubber trees in the Philippines is very inferior.

At present, in general, the yield per acre of rubber trees in the Philippines is still quite satisfactory in comparison with that of the world's. This is because the newly replanted rubber trees with high-yielding varieties under the rubber replanting program carried out by many natural rubber producing countries since 1953 have not come into full bearing yet. Malaysia expects to have completely high-yielding acreage between 1968 and 1973. But in order that the Philippine natural rubber industry would be able to compete with world natural rubber industry successfully in the future, the yield per acre of rubber trees in the Philippines must be increased to bring down the cost of production. The best way to achieve this is through a rubber replanting program to replace old, low-yielding rubber trees with new high-yielding species.

But in the Philippines there is no government-financed rubber replanting program such as had been adopted by government of other natural rubber producing countries to encourage replanting by giving adequate grants to both estates and small holders. Consequently, estates and especially small holders in the Philippines have no incentive to carry out rubber replanting programs. This is due to the fact that rubber replanting programs are expensive operations for both estates and small holdings, and more especially for the latter.

Accordingly, in order that the Philippine natural rubber industry will be in a position to compete with the world natural rubber industry successfully, and the problem of high costs of replanting can be solved, the Philippine government should also encourage both estates and small holders to carry out the replanting program by giving them sufficient grants. In Malaysia, the fund for the rubber replanting program is financed by a direct tax on rubber exports.<sup>15</sup> However, in the Philippines, since all natural rubber produced is for domestic consumption, it is feasible to raise the funds for financing a Philippine rubber replanting program by imposing a special rubber sales tax. Nevertheless, the solution of the problem of raising funds for financing a rubber replanting program is at the Philippine government's discretion.

*Land Law prohibiting private corporations or associations from acquiring, leasing or holding public agricultural lands in excess of one thousand and twenty-four hectares.* In addition to the problems of cost of production and rubber replanting program to increase the yield of rubber trees, the obstacle

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<sup>15</sup> Phillips, Jr., *op. cit.*, p. 151.



to the rapid expansion and development of the Philippine natural rubber industry has also been partly due to the land law prohibiting private corporations or associations from acquiring, leasing or holding public agricultural lands in excess of one thousand and twenty-four hectares. On this subject, Article XIII, Section 2 of the Constitution of the Philippines, provides:

No private corporation or association may acquire, lease or hold public agricultural lands in excess of one thousand and twenty-four hectares, nor may any individual acquire such lands by purchase in excess of one hundred and forty-four hectares, or by lease in excess of one thousand and twenty-four hectares. Land adapted to grazing, not exceeding two thousand hectares, may be leased to an individual, private corporation, or association.<sup>16</sup>

Furthermore, any individual, private corporation or association that wants to develop large-scale rubber plantation in excess of one thousand and twenty-four hectares cannot resort to privately-owned agricultural lands because a negligible amount of rubber land in Mindanao and Sulu, the major rubber producing area in the Philippines, is privately-owned. It is not probable that any large area could be acquired by direct purchase from individual owners.<sup>17</sup>

Owing to the Article XIII, Section 2 of the Constitution of the Philippines, and the improbability of buying large-scale land in excess of one thousand and twenty-four hectares from private owners, large-scale rubber plantations in excess of one thousand and twenty-four hectares are not realized. The big tire companies represented by Goodyear, Goodrich and Firestone companies already own 1,024 or nearly 1,024 hectares each. But the supply of rubber from each plantation is not sufficient for each factory. Though each of the big tire companies mentioned has attempted to own more land, each was prevented from doing so by the land law. Other individuals and private corporations or associations that are entitled to acquire, lease or hold public agricultural lands, because they have not yet acquired, leased or held public agricultural lands up to the scale limited by the land law, either have no interest or adequate capital or both, to develop rubber plantations. Thus, in order to promote a rapid expansion of the Philippine natural rubber industry, Philippine laws should allow private corporations or associations to acquire, lease or hold public agricultural lands in excess of 1,024 hectares. By so doing, the Philippine natural rubber industry will be in a better position to export natural rubber,

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<sup>16</sup> Vicente G. Sinco, *Philippine Political Law, Principles and Concepts*, Manila, Philippines: Community Publishers, Inc., 1962, Appendix A, p. 750.

<sup>17</sup> Charles Freeman Vance, et. al., *Possibilities for Para Rubber Production in the Philippine Islands* (Washington: Government Printing Office), 1925, p. 83.



earn foreign exchange, reduce export instability and help to diversify export commodities for the progress and stability of the Philippine economy.

*Competition of rubber tires and tubes from abroad.* The most serious problem confronting the Philippine rubber manufacturing industry is the competition of rubber tires and tubes from abroad, especially from Japan. Since the rubber tire and tube industries account for the bulk of the aggregate rubber manufactures, the future of the entire rubber manufacturing industry depends to a great extent on the prospects of both rubber tires and tubes.

B.F. Goodrich Philippines, Inc. was against the importation of "Bridgestone" brand truck tires and tubes shipped by Mitsui & Co. Ltd. Kobe, Japan, to the Philippine Allied Enterprises, Inc., of Manila, on board S. S. "Yakal" in 1962.<sup>18</sup> In the same year, the Goodyear Tire and Rubber Company of the Philippines, Ltd. protested against the importation of "Yokohama" brand truck tires and tubes shipped by the Yokohama Rubber Co. Ltd. to Uytana's Trading of 651 E. de los Santos Ave., on board S.S. "Leonard".<sup>19</sup> Both B.F. Goodrich Philippines, Inc. and Goodyear Tire and Rubber Company of the Philippines sought the protection of the Philippine government through the Department of Finance to impose dumping duties on the aforementioned truck tires and tubes on the ground that their importation will have disastrous effect on the domestic tire and tube industries. B.F. Goodrich Philippines, Inc. maintained that the importation in question will result in the worsening of market conditions, through ruinous competition from abroad. Furthermore, the Goodyear Tire and Rubber Company of the Philippines, Inc. contended that the importation of tires and tubes from Japan sold to the Philippine consigners at prices less than their fair value will undoubtedly cause cutbacks in the local rubber tire and tube manufacturing industry resulting in the layoff of Filipino labor and in the failure of the industry to meet its commitments and liabilities.

The problem of competition from the Japanese truck tires and tubes was solved when the Secretary of Finance imposed special dumping duties, in addition to ordinary customs duties, special import tax, internal revenue taxes and other charges that shall be assessed, levied and collected on the protested truck tires and tubes imported from Japan and on other shipments of truck tires and tubes similar or identical to those under consideration on November 17, 1962.<sup>20</sup>

However, the Secretary of Finance himself reversed the dumping decision on the Japanese tires and tubes on January 6, 1964, because of the order

<sup>18</sup> See the 'Decision on Dumping Cases' Nos. 3 and 4 of the Department of Finance. November 17, 1962

<sup>19</sup> *Ibid.*

<sup>20</sup> *Ibid.*



from the President of the Philippines, thereby rendering without force an effect the order of November 17, 1962.

Since then the domestic tire and tube industries have been facing competition from those imported from other countries especially those from Japan.<sup>21</sup> All major local rubber tire companies have complained that the importation of Japanese rubber tires and tubes resulted from dumping policy. Mr. Nicasio A. Tuason, President of B.F. Goodrich Philippines, Inc. maintained that tires from Japan continue to be dumped into the Philippine in larger quantities than ever.<sup>22</sup>

In relation to the problem of competition of rubber tires and tube from abroad, especially from Japan, it will be at the Philippine government's discretion to investigate whether the importation of Japanese tire and tubes is dumping or not. If it is, then, the Philippine government should impose special dumping duties on Japanese tires and tubes. But at any rate, if the importation of foreign tires and tubes would seriously jeopardize the domestic rubber tire and tube industries, then the Philippine government will also have to resort to necessary measures to protect local rubber tire and tube industries for the stability and growth of the Philippine economy.

#### A SUMMARY OF THE CONTRIBUTIONS OF THE PHILIPPINE RUBBER INDUSTRY

In brief, it can be said that the Philippine rubber industry has contributed much to Philippine socio-economic life. More specifically, these contributions have been made by the industry to employment, capital formation, foreign exchange, the development of allied industries, and product diversification.

Notable in the contributions of the rubber industry is the fact that such contributions have been in both the industrial and agricultural sectors considered the mainsprings of progress of any developing economy. In terms of employment alone, employees in the rubber manufacturing establishments increased from 2,581 in 1956 to 6,186 in 1961. This represented a jump in earnings from ₱3,792,000 to ₱14,489,000 for the same period. Meanwhile, owing to the rubber industry, total book value of fixed assets increased from ₱7,605,000 in 1956 to ₱46,330,000 in 1960. Foreign exchange, on the other hand, was affected by the production of natural rubber which rose from 415,530 kilograms valued at ₱477,020 in 1929 to 6,002,000 kilograms valued at ₱6,724,100 in 1964. In addition, the value of production of manufactured rubber goods, which was only ₱11,257,850 in 1953, increased to the peak of ₱154,594,164 in 1963.

<sup>21</sup> Personal interview with the public relations managers of the major local rubber tire and tube producing companies sometime in January, 1965

<sup>22</sup> B. F. Goodrich, Philippines, Inc., *Annual Report*, 1964.