

What Can We Be and What Should Be Done?:

Making Farmers as Our Strategic Partners

in Natural Rubber Re-development

Oleh:

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Let us first acknowledge our ancestors who had given us open-ended opportunities to gain benefits from natural rubber (NR). Mayan and Aztec could be the oldest culture that used NR not only for household-economics purpose but also for sports and rituals. The Latin name of NR, *Hevea brasiliensis*, by itself shows that the origin of NR is not from Asia or Europe, but from Brazil. Now, NR is becoming one of strategic commodities in mainly Asian countries. In fact, Indonesia, Malaysia and Thailand are three major rubber exporting countries in the world market. How come?

It was due to Christopher Columbus who initiated his world exploration to seek the New World. He brought rubber balls in his return to Europe in 1493. So, for more than 500 years rubber has been spreading from its origin to other parts of the world.

Our knowledge of potential uses of rubber has been rapidly expanding. In 1839, Charles Goodyear invented the vulcanization technology that induced significant impact on the rapid development of rubber based industries. Most of NR is used for tire industry, namely about 70 % of total rubber production.

Our future prospects on demand for rubber should be considered as our basic knowledge for building our policy and strategy.

In my perspective, the answer to the above issue is determined by the capacity of developed countries in utilizing advanced science and technology that they have endowed already. The domination of Bridgestone, Michelin, and Goodyear in tire industry, for example, will determine what our NR prospects will be. When I was Director General of Estate Crops of the Department of Agriculture, I learned for example that Bridgestone had initiated R&D to find the best types of latex that would be suitable with demand for rubber products in 2020. It means that future rubber technology will determine our future historical path.

One advantage of Indonesia and other densely populated countries is that we have surplus labor. It is also one main reason why rubber has been growing in Asian countries. One activity that is very difficult to be substituted by mechanization or robotic technology is rubber tapping. It is a job of skilled labor. It explains why intensive rubber plantation is not the case in Brazil, the place of origin for NR.

So, we see two polars of locations: high-tech for processing industries is located in temperate regions such as the USA, Europe, and Japan and NR plantations are in Asian tropical countries.

All industrialization cannot be freed from rubber products. Therefore, there will be always demand for rubber products. In fact, Savitry and Suryadi, using data from IRSG, showed that world's NR consumption in 2006 exceeded the world's rubber production. In 2006 the world' rubber consumption was 9.2 million tons and the world's rubber production was only 8.9 million tons. This situation has pushed NR price increase. China and India were the major cause of price increase due to high economic growth in these regions.

We see, Asian is our major production center and at the same time our new major market too in the future.

What are the implications for Indonesia or other rubber producing countries?

Indonesia is a late industrializing country relative to Malaysia or Thailand (see Barlow, 1996). In fact, in the case of NR productivity, Indonesian position is also lagged behind Malaysia and Thailand. Indonesian lower NR productivity compared to that of Thailand or of Malaysia is mainly caused by our lower quality of rubber plantation. One of the most critical factors is the high composition of old rubber trees in our plantations.

The above situation, from the other point of view, is new business opportunity. Why? We are short of wood. In fact, rubber wood is a perfect substitute for *ramin* that has been forbidden to be exploited. The estimation of wood deficit in Indonesia is 60 million m³/year. So, we have “rubber forest” that waiting for us to work on seriously. It is a good potential income for replanting fund and employment opportunities. The key is how to organize our rubber wood based industries that are tied up with farmers’ rubber replanting program.

Here, we view that rubber is also a source of wood. In addition, rubber is also a source of income for carbon trading. Rubber can also be combined with other crops or livestock. We have to develop and plant a new clone of NR which gives both the best latex and the best wood.

Because farmers own the largest area of rubber in Indonesia, then there is a hidden great economic potential that we have to explore.

In my opinion our business will be more profitable or even more sustainable if we successfully create a strategic cooperation with farmers rather than develop plantations of NR by ourselves. Why?

First, future demographic trend will develop a pattern of regional distribution of population that make more people stay in the cities rather than in villages. Rubber plantation will depend on labor availability and labor cost will be increasing over time in the future. It implies that developing incentives systems for both State-Owned Enterprise and farmers will be broader in partnership systems rather than in agency-worker relations. In Table 1 we see that urban population of Indonesia will be higher than that of rural population beginning 2010 (See Table 1).

Table 1. Indonesia: Total Population and Annual Rate of Change of Percentage, 1950-2015

Year	Population (thousands)		Annual Rate of Change of Percentage	
	Rural	Urban	Rural	Urban
1950	69 675	9 863	-0.24	1.63
1955	74 815	11 632	-0.26	1.61
1960	81 939	13 992	-0.28	1.59
1965	89 728	16 824	-0.31	1.56
1970	99 461	20 475	-0.55	2.47
1975	108 433	25 961	-0.70	2.70
1980	116 900	33 173	-1.05	3.32
1985	122 826	43 354	-1.25	3.18
1990	125 929	55 484	-1.49	3.01
1995	126 087	69 562	-2.11	3.33
2000	121 314	87 861	-2.24	2.73
2005	115 534	107 248	-2.26	2.18
2010	109 185	126 570	-2.20	1.72
2015	102 397	144 416	-2.06	1.34

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2004 Revision and World Urbanization Prospects: The 2005 Revision,

Second, even though current rubber price has increased up to US\$ 2/kg, it is still much lower than its price in 1960, namely US\$ 3.77/kg. It means that we need to consider seriously on what kind of industrial organization we have to develop in the future. I proposed that it is very strategic to think of farmers not only as suppliers of raw materials but also as share holders of corporation. This form of organization will create a new structure of incentives that will induce better cooperation.

So, we have to be cautious by the present increase in NR price because it will induce incentives for the advancement of science and technology in developed countries to find a new substitute for NR or for increasing efficiency in NR use. It is indicated by the long trend price movement in past decades for rubber and for almost all primary products, it has been a declining trend.

Third, maintaining harmony between corporation and farmers and other parts of community should be viewed as investment in institutions. This is important for reducing transaction costs between community and corporation. It is a source of competitive advantage. The reason is that it is impossible for us to produce competitive world class products without having our world class community.

Fourth, it implies that we need to develop our sources of income diversification from our rubber plantation. Monoculture rubber plantation should also be considered as our past because, first, it is incapable to cope with price fluctuation and uncertainties and, second, it is a non-sustainable agriculture. Combining rubber and food crops and livestock should be considered as our new basic strategy to gain maximum-sustainable results for every piece of land. This is important because we face relatively faster growing scarcities of land.

What will State Owned Enterprise (SOE) do in Indonesia?

NR is the second largest commodity of estate crops in Indonesia. NR is an important contributor for Indonesian economy, particularly for both farmer's income generator and foreign exchange earner. Moreover, the NR industry creates more job opportunities for more than 2 million smallholders and labors.

In 2006, Indonesian rubber area reached 3.30 million hectares which was dominated by smallholders (85%). The remaining area was owned by Government and Private estates, NR plantations mainly located in Sumatra and Kalimantan. The total production of NR increased from 2.27 million tones (2005) to 2.47 million tones (2006). State Owned Enterprise (SOE) is only controlling 166 thousand hectares of NR plantation, or is only 5 % of total NR plantation land. In terms of national production, share of SOE in 2006 was only 6 % out of 2.47 million ton (see Table 2).

Table 2. Area and Productivity of Rubber at Several PTPN's, year 2006

PTPN	Area of Rubber (Ha)	Mature Area (Ha)	Production (Ton)	Productivity (Kg/Ha)
II	8.498	7.572	6.020	795
III	39.104	25.183	37.489	1.489
V	11.153	8.800	10.706	1.217
VII	34.937	26.894	33.457	1.244
VIII	24.042	19.333	19.874	1.028
IX	24.871	19.283	22.850	1.185
XII	12.205	8.410	11.454	1.362
XIII	11.501	7.526	7.498	996
TOTAL	166.302	123.001	149.348	1.214

Note: from several sources

So, we understand that the source of rubber in Indonesia, and I think it is also true in other countries: rubber

mostly comes from the hand of farmers. Farmers are the originator of long term investment—it is a long time to wait to harvest. We are small investors. How can we influence “the world” if we are small players? Farmers are small because they are unorganized. So, the key is how we can strengthen the capacity of NR farmers, hand in hand with our potentials.

It means that we have to see that farmers as our strategic partners and our major social capital. We have experience with Nucleus Estate Smallholders (NES) Projects which show that, our past arrangement in cooperation with farmers failed. It is an important knowledge for us.

Why we have not been successful in the past does not mean there is no room for cooperation with farmers. We have to explore the cause. I realize why we were unsuccessful. I think it is because we had developed a wrong institutional design that made farmers only treated as our suppliers. Our relation with farmer was weak and the position of farmers was even weaker in our institutional design of NES.

I learned from a sugarcane case, when we developed an appropriate new design of our relations with sugarcane farmers: within 5 years our sugar production has increased by 800,000 tons. It means that there has been a significant amount of sugarcane production increase, which is mostly produced by farmers. One of the most important key in the case of sugar is that the price received by farmers is assured by investors, namely sugar traders, who transform themselves to be investors in cooperation with farmers. What new design is suitable for increasing our NR potentials is our task to formulate.

SOE will take the first step to explore a new model of cooperation with farmers. The key is synergy and the issues are two. First, how can we work together in increasing plantation productivity; and second, how can we get together in developing processing facilities. This is the main task of the Director of Planning and Development in each PTPN. Furthermore, PTPN itself will increase its own plantation productivity. The target is to increase 1 % of our recovery rate this year, and of course, it will be continued the following years. We would like also to escape from depending on only one kind of benefit from rubber, namely, latex. Wood, food and energy and other kind of opportunities that can be harvested from the land will be explored.

We have not enough room to maneuver because throughout our history we have been shaped as only the world market suppliers for raw materials. It means our stage of development has been constrained by our history. However, there are new opportunities that the world cannot ignore from NR in the process of their continuing industrialization. The gain from increasing NR price such as we have now should be treated as a time for reinventing our whole aspects of NR industries. A significant impact will take place if we are able to create synergy with our farmers and to exploit the room for win-win solution with them.

I believe that with the way I describe above we will gain a national competitive advantage and at the same time we will create not only natural rubber plantation but also a world class rubber community.

Reference:

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