

The Paper Industry in Japan: Its Development and Challenge

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Abstrak

Paper ini mendiskusikan peran stakeholder seperti pemerintahan Meiji, akademisi dan perusahaan swasta yang telah banyak memberikan kontribusi atas modernisasi Jepang. Pemerintahan Meiji (1868-1912) dapat digolongkan sebagai pemerintahan yang kuat. Raja Meiji yang masih muda dan mempunyai ambisi memajukan Jepang, disertai oleh para akademisi yang brilian, berpengalaman dan banyak dari mereka didikan universitas dari Barat seperti, Ito Hirobumi, Okuma Shigenobu, Mori Arinori, Fukuzawa Yukichi, Eiichi Shibusawa dan sebagainya. Peran akademisi yang didukung oleh masyarakat sangat signifikan dalam melancarkan program modernisasi Jepang dalam berbagai sektor misalnya stabilitas politik, demokratisasi, pembaruan institusi sosial (pendidikan dan kesehatan) dan mendirikan berbagai perusahaan. Di antara perusahaan strategis yang mereka mendirikan ialah 'perusahaan kertas'. Industri kertas bertujuan mendorong masyarakat Jepang menjadi masyarakat terdidik, berbudaya dan menjadi bangsa maju. Paper ini mentelaah manajemen dua perusahaan kertas besar yakni Oji dan Nippon, dilihat dari perspektif strategi visi dan misi berdirinya, cara memperoleh bahan baku, mengembangkan R&D, inovasi teknologi, akses ke institusi per bankan dan pemasaran.

Kata kunci: Pemerintahan Meiji, akademisi, pihak swasta, perusahaan kertas Oji dan Nippon, modernisasi dan tantangan.

Introduction

Through this article on pulp and paper ideas, I try to respond the Eiichi Shibusawa's comment (1870s). He advised the development of the paper-manufacturing business should be established in modern Japan. His views in regard to this matter were summarized as follows:

“(…) The high development evident in the West is largely due to the high level of culture among the people. Many factors may contribute to the spread of culture, but the foremost is undoubtedly *printing*. By means

of printing, a great number of books, newspapers, and periodicals can be made available; and the material factor for these publications would be necessarily be *paper*. It is obvious then that papermaking and printing are, so to speak, the fountainhead of civilization (Kiyofusa Narita, 1954: 94).

The Shibusawa's statement was very fascinating to review it, with the context stimulating ideas to modernize Japan. Based on my opinion, the brilliant ideas which focusing on establishing 'paper industry', subsequently affect to encourage modern Japan from the viewpoint of *economics and social* aspect. Meiji government that characterized by a strong regime launched its modernization on social institution by establishing educational institution from elementary school until universities. The impact of the social revolution after four decades, Japan's society appeared to be less of illiterate and became well educated and might replace as similar with Western nations. Besides, economic perspective, the Shibusawa's words were very influential on encouraging private companies and Japan's government to launch economic development, by establishing modern factories, one of them was paper industry. The paper factories were rapidly developed in Japan. Currently, these industries hold a very strategic position and subsequently categorized number third rank, and produce 30.8 million metric tons of paper, being among the major producers of paper in the world. Paper is categorized as number thirteen (13) among the fifteen (15) *largest manufacturing* industries in Japan, total amount sales reaching ¥6.8 trillion and absorbing 34,839 employees.

The paper analyses on some interesting issues, namely the role of government issued policy and the response of private sectors to the policy as direct actors to enhance political stability and economic development; the role of academics to modernize Japan from many perspective; the profile of the largest paper producers (*Oji and Nippon*) concerning their strategy on procuring raw material (wood), research and development, production and market and their challenges; and concluding remarks.

The Role of Government

The role of government in Japanese economic development is very significant. Initially, the group of leaders who brought the Meiji Restoration formed 'the government' and it laid the foundation for economic development, at the same time the Restoration occurred. Earlier successes provided the basis for subsequent economic policy. From this perspective, one might hold that economic development in Japan is wholly attributed to the strong guidance given by the government.

The first step in modern economic development was possible when the country was united under the very strong and far-sighted centralized Meiji government, which aimed at 'the enrichment and to strengthen the nation'

through military and economic development. It is particularly important fact that the Meiji government was active, not only in framing political and economic policies, but also in implementing social changes. The government maintained political stability, built a mass education network, an industrial order, and achieved a strong politics and empire. By the end of the Meiji Period (1868-1912), Japan was one of the world's great powers, the envy of some neighbors, and master of others.¹

These achievements, the role of the government in Japanese political stability and economic development (*industrialization*), have been regarded as having been very significant. In line with this political stability and economic development, according to Sugihara more importantly, 'however, Japanese industries (and society at large) attempted to increase labor productivity, note by deploying more capital and resources, but through the more efficient use of labor in manufacturing and service industries. It is in these areas that the recent transfer of Japanese technology to the rest of the world has been taking place (Sugihara, K, 2003: 114).

Government led the industrial development. They modernized the old factories, set up by the shogun and lords. They built *paper industries* (1872), a railway from Tokyo to Yokohama in 1872, improved the roads, established the post office (1871), constructed ships for a navy and merchant marine, founded Tokyo Electric Light (1886), Tokyo Gas (1885), built textile mills before 1890, and later, iron and steel works, engineering plants and shipbuilding yards, especially in north Kyushu and in the Osaka and Tokyo areas (Prue Dempster, 1969: 175-176). In 1877 the government sponsored a great exhibition in Tokyo to spread the knowledge of a new farming and industrial methods. The government also sold the new factories cheaply and many passed to ex-samurai families, who gradually gained more and more influence as they built up trade, industry and banking concerns, and became the great financial groups or *Zaibatsu*,² of which Mitsui, Mitsubishi, Sumitomo and Yasuda were the largest. Almost every industry in Japan today had its beginnings in those established by the Meiji Government.

A steady flow of capital was essential for the continuation of this rapid industrialization. Little came from abroad but at home, although at first it came from taxes and samurai bonds, soon industry made a vital contribution from its profits. As they paid little to their workers, who were used to living frugally, most of the profits could be ploughed back into industry and the

1 For further information about the "Transition of Tokugawa rule to the Meiji era," see Marius B. Jansen "Tokugawa and Modern Japan," in John Hall & Marius Jansen (ed.), *Studies in the Institutional History of Early Modern Japan*, New Jersey: Princeton University Press, 1968, p. 318.

2 *Zaibatsu* means the big traders, which eventually became the big groups of financial and private companies in the Meiji era such as the Mitsubishi, Mitsui, Sumitomo, Yasuda, etc.

rate of capital formation was very high. Therefore, in many cases, private enterprises went along with government policies in building the infrastructure for industrialization, and then went their own way once that foundation had been built. The fact that the Meiji government was dictatorial but not 'totalitarian' implies that there was a room for other economic forces to operate. Moreover, such freedom was admitted in a wide range of economic activities. This is one of reasons why the Japanese economy could enjoy some advantages, associated with competitive markets without falling victim to monopoly capital or extreme protectionism. The importance of a government in economic development is usually judged by the great number of policies adopted. In Japan, there is considerable discrepancy between the declared policies of the government and the way in which those policies were in fact administered. However, it is generally believed that the economic development of Japan can be explained largely by the role of the government.

Furthermore, the role of Japanese group modernizers such as Fukuzawa Yukichi, Shibusawa Eiichi, Tokugawa Yoshinobu, Okuma Shigenobu, Ito Hirobumi, Soejima Taneomi, Mori Arinori, and so on, contributed to the Meiji Restoration and the formation of 'the government'. The government laid the foundation of economic development at the same time as the Restoration occurred.³ Nakayama highlighted this by considering briefly the policies of the government in the early years of the Meiji period. First, the government sought to maintain the country's independence. Second, it sought to ensure that the social order was maintained domestically, and strove to promote political unification as the basis for economic activity. Third, it removed the legal restrictions on changing employment, and thoroughly reformed existing institutions. Fourth, it established a foundation for greater productive efficiency by making sweeping revisions in the legal, educational, tax, and currency systems (Nakayama, 1975: 121-122). **From this perspective, the role of the Meiji government was not necessarily considered as totalitarian, despite its politically dictatorial character.** This is important for an overall evaluation of the government's role in Japan. The great emphasis placed on the role of the Meiji government, in laying the foundations for development stands equally beside the role of the private sector. However, these foundations alone did not sustain Japan's economic growth.

There must have been other vital elements which worked to promote further progress after the basic foundations had been laid. The major issue, then, is the relationship between the *government* and these other vital elements such as the role of the *private sector*.

3 They were brilliant young boys who were sent to abroad (to the United States and Western Europe to study Western sciences and industrialization) at the end of the Tokugawa era and eventually became pioneers of 'modernization' in the transition to the Meiji government. For further information, see Harootunian, *Toward Restoration: The Growth of Political Consciousness in Tokugawa Japan* (Los Angeles: University of California Press, 1970) p. 321-327.

Government and the Private Sector

The success of the government in laying the basic groundwork during the early years of Meiji, along with the support which was enlisted from the public, was ultimately due to the close coordination of its efforts with those in the private sector. This meant that the government had responsibility for the private sector in the encouragement of creative private initiative, enterprise and implementing business decisions. Thus, any assessment of the government's contribution to economic progress necessitates a closer examination of the role played by private enterprise, and consideration of the relationship between the government and the private sector. Therefore, we must pay attention to the variety of institutions through which the government either directly or indirectly influences the decisions of private sector. The tax system, tariff policy and general industrial policy, including the relative weight given to agriculture and the small or medium-sized enterprises, all deserve mention (Nakayama, 1975: 124-125).

One of the first steps of the Meiji leadership was the concentration of the major productive facilities in government's control. So, the government forged ahead with national policies and production targets which were largely non-economic in nature. Its initial intention was to firmly assert its leadership over the private economy. Its policies for manufacturing were similar to those pursued by the German government, which from the beginning sought to establish government control to some extent. The necessities of guidance by the state were accepted as a basic premise, primarily with an eye on developing the productive power of the nation. Obviously, from this basic premise emerged the close contact between the state and the large enterprises, the intimate relationship which later developed between the major banks and the industrial giants, and the appearance of various semi-official organizations which sought to promote cooperation and autonomous control in all private industries.

By way of contrast, it is interesting to note that the Meiji government made no attempt to interfere to or control the smaller enterprises. The only exceptions were in the silk and tea industries which provided a stable source of exports during the initial years. Within these two industries, which were characterized by a vast number of small enterprises, the government also sought to set up a system of 'autonomous' control, similar to those found among the large enterprises. In this case, as among the large firms, the government not only promoted cooperation and autonomous control, but even positively promoted business mergers in some industries which were in need of large amounts of capital and technological renovation. Thus, the relationship between the government and the large enterprises rapidly deepened. This in turn accelerated the emergence in the long run of a firmly implanted plutocracy; particularly the *zaibatsu*, which stood quite apart from

the government so that the entrepreneur or respectable businessmen could not openly occupy a top position in the political arena. The entrepreneurs in the *zaibatsu*, which had close contact with the government, came from the *samurai* class in most cases. They shared with the political elite the same social standing and cultural background. Nonetheless, the *samurai class* could not occupy authoritative political positions while they are still being as entrepreneurs. This basic fact suggests that the relationship between the government and the big enterprises was much more narrowly defined than might have been expected from a limited consideration of the government's political objectives alone. In this case, the scope for independent initiative by those in private industry, as well as their ability to compete among themselves and with the government, had not been greatly limited (Nakayama, 1975: 126-127).

In many cases, *private enterprises* went along with *government policies* in building the infrastructure for industrialization, and then went their own way once that foundation had been built. They were, in order words, quite opportunistic. Thus, while the controls of the government were considerable, in fact only a few industries were subject to the direct control of the government, at least on *paper*, because they were very strategic industries. Paradoxically, it might rather be said that Japanese enterprises enjoyed comparatively greater competitive freedom in the prewar period despite the seeming omnipresence of government controls. Moreover, it might also be pointed out that the government devoted great efforts to creating favorable conditions for free enterprise, and eagerly awaited the fruits of such competition.

After the establishment of many new industries in Meiji times, the period from 1880 to 1931 was one of political stability and expansion of industry in scope and in scale. For instance, the Sino-Japanese war of 1894-1895 provided an impetus to industrial development while the unexpected success of the Japanese, encouraged them to even greater patriotic fervor and brought the country to the notice of the great powers as a new force to be reckoned with the Far East (Prue Dempster, 1969: 176). She extended her frontiers, using her new military power, to build up an empire in the east. She gained control over Formosa (Taiwan) in 1895. In 1905 she defeated Russia and acquired Southern Sakhalin and in 1910 moved into Korea. This brought her growing power to the notice of the West.

The Development of Pulp and Paper

The role of academics such as Eiichi Shibusawa, whose brilliant ideas would encourage the conditional sphere to establish entrepreneurship among Japanese, was crucial. Among the entrepreneurship ideas was one to establish the Oji Paper Company as the pioneer of the pulp and paper industry in Japan. This paper discusses the development and significance of the paper industry, raw material, and its impact on the environmental problem.

The Pioneer of Pulp and Paper

As previously discussed, the role of Japanese modernizers who formerly studied in Western Europe and the United States was very significant in the launching of the modernization of Japan. In this sense, one of the great figures who built the Meiji economy, Shibusawa Eiichi (1840-1931), was unique. He started his post-Restoration career in the Finance Ministry, but soon he left it and became a banker-entrepreneur.⁴ He founded one new company after another; in all, he was associated with more than five hundred enterprises. Yet he created no industrial empire. Among the companies he supported the foundation of the *Oji Paper Company* (1872), Tokyo Marine Insurance (1879), Tokyo Gas (1885), Tokyo Electric Light (1886), Tokyo Chemical Fertilizer (1887), Shinagawa Glass (1888), and Ishikawajima Shipyard (1893). The two spearhead industries of Meiji economic development were cotton spinning and railroads. Shibusawa was active in both. Shibusawa was also instrumental in establishing the Tokyo Stock Exchange (1878) and the Tokyo Chamber of Commerce (1878).

Focusing on the development of pulp and paper industries, it is better to refer to a valuable speech of Eiichi Shibusawa as one of the founders of the modern Japan. He said, "Western civilized nations have attained their full development in every field. This is because they have devoted themselves to the cultural and scientific development by promoting the spread of higher education. In Japan we have to strive for cultural and scientific development. In order to attain Japan's development as a modern nation, we have to do a lot of things. The important thing is to promote the *printing industry* in order to publish a great number of newspapers and books which are conveniently available to everyone."⁵

These words were very influential in encouraging private companies and Japan's government to launch modernization programs, one of which was to further develop the *pulp and paper industries*. Currently, these industries hold a very strategic position and are subsequently categorized number 13 among the 15 largest *manufacturing* industries in Japan, whose total sales amount to Y6.8 trillion and which have absorbed 34,839 employees (Table 1). The largest manufacturing industry shown is transport machinery whose total amount to Y49.5 trillion, general machinery, Y24.8 trillion, in second place, and chemicals, Y23.1 trillion, in the third rank.

Based on the Pulp and Paper Statistics in 2006, the development of this industry reached 21 units for pulp manufacturers with a production of about 10.6 million metric tons in 2004, rapidly increasing to become 10.7 million in

4 For further information about the role of Shibusawa Eiichi in business, see Teruko Craig (translator), *The Autobiography of Shibusawa Eiichi: from Peasant to Entrepreneur* (University of Tokyo Press, 1994) pp. ix-x.

5 For further information, see *The History of Oji Paper* (Oji Paper Co., Ltd, 2004) p. 163.

2005. Although, at the same time Japan imported about 2.5 million metric tons of pulp from many countries in 2004, this decreased to 2.3 million in 2005 (Table 2).

Table 1. The largest Manufacturing Industries in Japan

Manufactures	Total Amount Y (trillion)
1. Transport Machinery	49.5
2. General Machinery	24.8
3. Chemical	23.1
4. Foods	21.9
5. Electric Appliances	17.5
6. Electronic Parts, Devices	17.3
7. InformationCommunication Machinery	12.6
8. Metal	11.9
9. Steel	11.6
10. Beverage, Tobacco, Feed	10
11. Oil Products, Coal Products	9.6
12. Plastic Products	9.6
13. Pulp, Paper, Paper Products	6.8
14. Ceramics	6.7
15. Printing and Allied Industries	6.6

Source: Census of Manufactures Report by Industries (METI, 2003); See also Japan Pulp and Paper Co., Ltd, 2005, pp. 5.

Table 2. Pulp Imports by Origin (2005) (In metric tons)

Origins	Grand Total
Canada	820,470
U.S.A	585,524
Brazil	322,861
New Zealand	229,396
Indonesia	132,835
Chile	95,426
Russia	57,658
Sweden	48,370
Finland	15,548
South Africa	10,960
China	6,294
Other	34,714
Total	2,360,056

Source: Ministry of Finance, 2005; *Pulp & Paper Statistics 2006*, p. 11.

Meanwhile, paper and paperboard manufacturers rapidly developed to 419 units and their production was 31.3 million M3 tons in 2005 (Table 3). Japan also at the same time, exported recovered paper to other countries (Table 4).

Table 3. Recovered Paper Products (In metric tons)

Year	Total net paper and paperboard supply for domestic consumption
2001	31,071,938
2002	30,666,872
2003	30,929,580
2004	31,383,951
2005	31,380,357

Source: Ministry of Economy, Trade and Industry; Ministry of Finance 2005; Pulp & Paper Statistics 2006, pp. 12.

Table 4. Recovered Paper Exports by Destination 2005

Countries	Amount (in metric tons)
China	3,108,449
S. Korea	177,430
Taiwan	169,819
Thailand	165,181
Vietnam	53,272
Philippines	22,982
Indonesia	7,656
Other	5,693
Total	3,710,482

Source: Ministry of Finance 2005; Pulp & Paper Statistics 2006, p. 12.

It is obvious that pulp and paper industries in Japan have developed rapidly, and there are three reasons for this. Firstly, the government provides a conducive condition for growth of these industries by incentive credit from banks, tax laws, and provides good infrastructure (ports and roads). Secondly, the sustainability for procuring raw materials (wood trade) from overseas as well as domestically by their huge tree plantations for raw materials. Thirdly, research and development respective to the pulp and paper industries is well managed. See the following table for the top 12 Paper Companies' financial results for March 2005 (Table 5).

Table 5. Top 12 Companies Financial Results for March 2005 (Billion Yen)

Company	Sales	Profit after tax	Total assets	Employees	Profit to sales ratio
Oji Paper Co	1,185.1	43.3	1,606.2	18,634	2.7
Nippon Paper	1,179.7	24.4	1,530.0	13,774	1.6
Daio Paper	395.4	4.3	638.1	7,974	0.7
Rengo Co	391.2	10.9	424.7	9,385	2.8
Mitsubishi Paper	234.7	24.7	319.5	4,902	-
Hokuetsu Paper	151.2	7.0	221.4	2,782	4.6
Chuetsu Pulp & Paper	110.6	1.5	156.5	1,916	1.4
Kishu Paper	50.9	0.7	63.4	1,470	-
	54.1	0.9	72.4	1,134	1.7
Tokai Pulp Co	44.0	0.6	41.9	1,172	1.4
Tomoe-gawa Paper					
Tokushu Paper	22.1	1.4	53.5	543	6.3
Mishima Paper	36.1	0.9	39.2	861	2.5

Source: Pulp & Paper Statistics 2006 (Japan Paper Association), p. 18.

Profiles of Two Pulp and Paper Companies

The role of the private sector as a direct actor in encouraging the pulp and paper industries is very significant. The development of pulp and paper properly registered great progress for almost a hundred years following the Meiji Restoration. There are many fascinating players in this sector such as Oji Paper, Nippon, Daio, Rengo, Mitsubishi, Hokuetsu, Chuetsu, Kishu, Tokai, Tomoe-gaea, Tokushu, Mishima, and so on. These 12 actors are categorized as the largest paper companies in Japan from the viewpoint of sales, profit, total asset and employees. This paper focuses on the two biggest actors, namely Oji Paper and Nippon Paper, which are placed at rank number seven and eight among ten (10) as the major global pulp and paper companies.

1. The Oji Company

Oji Paper Group is the largest business concerning pulp and paper in Japan with annual sales of ¥1,185 trillion (March 2005). The group's core company Oji Paper, is a publicly listed company in the *Tokyo Stock Exchange*, obtained profits after tax of about ¥43.3 billion and had more than 18,600 employees in 2005.⁶ For more than 132 years (1873-2006), Oji Paper has contributed to cultural progress and the improvement of people's lives as the leading company in Japan's paper industry. This company produced 8.9 million tons of paper and paperboards in 2003 (*Japan Pulp and Paper, 2005*).

6 The second largest is *Nippon Paper Group* ¥1,179.7 billion, followed by *Daio Paper Corporation* ¥395.4 billion, *Rengo* ¥391.2 billion and *Mitsubishi Paper Mills* ¥234.7 billion. See "Top 12 Companies Financial Results on Pulp and Paper Industries" in Japan for March 2005; *Pulp & Paper Statistics 2006*: Japan Paper Association, 2006, p. 18.

History of the Oji Company's Development

Oji Paper Company, which is familiarly known as 'Soshi Kaisha' was founded on the 12th of February in 1873 in the village of Oji in Tokyo Prefecture by Eiichi Shibusawa. Obviously, Shibusawa intended to promote the modernization of Japan through paper manufacturing (Craig Teruko, 1994). The company, capitalized at ¥150,000, was the first joint-stock company in Japan.⁷ The beginning of the construction of mills in 1874, under Kojima-Gumi, was supervised by western engineers Frank Cheethmen from Britain, and Bottomley and Walsh from the United States (Kiyofusa Narita, 1954:102-104). It was quite a new experience for Kojima-Gumi Company to construct an entirely Western style-building. The construction of the mill was completed by June 1875, and when it was equipped, paper-making was started. Imported from England were a Fourdrinier paper machine, seventy-eight inches wide, and the largest of those installed in the six mills established in this country between 1872 and 1879.

In 1875, the Oji Mill, which introduced the Western method of paper manufacturing, began its operations. In 1889 Keta Mill, Japan's first wood pulp mill, began operation on the bank of the Keta River, in Shizuoka Prefecture. In the first stage of Western paper manufacturing, the company positively developed new technology and new products in addition to introduction of the newest facilities. So we can see the company had already sought to create its corporate culture, characterized by a positive attitude toward better technology, which has been handed down to the present Oji Paper. As it developed later (1893), the company changed its name to 'Oji Paper Co. Ltd.' It constructed a large mill in 1910 with the newest facilities at the village of Tomakomai in Hokkaido in order to meet the increasing demand for paper for newspaper, books and magazines. Therefore, in order to look for raw material resources, the company directed its attention to a vast field, located on the Chitose River originating in Lake Shikotsu.

This rapid development of Oji Paper took place after Ginjiro Fujiwara was appointed president in 1911. He had good leadership skills and rehabilitated many sectors of the company. He devoted himself to expanding the paper manufacturing business into Manchuria and the Korean Peninsula until he retired from the presidency in 1940. It was remarkable that Fujiwara developed the paper pulp business in *Sakhalin* and merged the company with Fuji Paper and Kurafuto Kogyo in 1933, making the biggest paper company in Japan. In this case, Fujiwara has been considered as the father of the Oji restoration. As known, the key to success in management of the company was that Fujiwara embraced the revered Eiichi Shibusawa's teachings: "paper manufacturing

⁷ For further information see *The History of Oji Paper* (Tokyo: Bunkado Printing, 2004), p. 163.

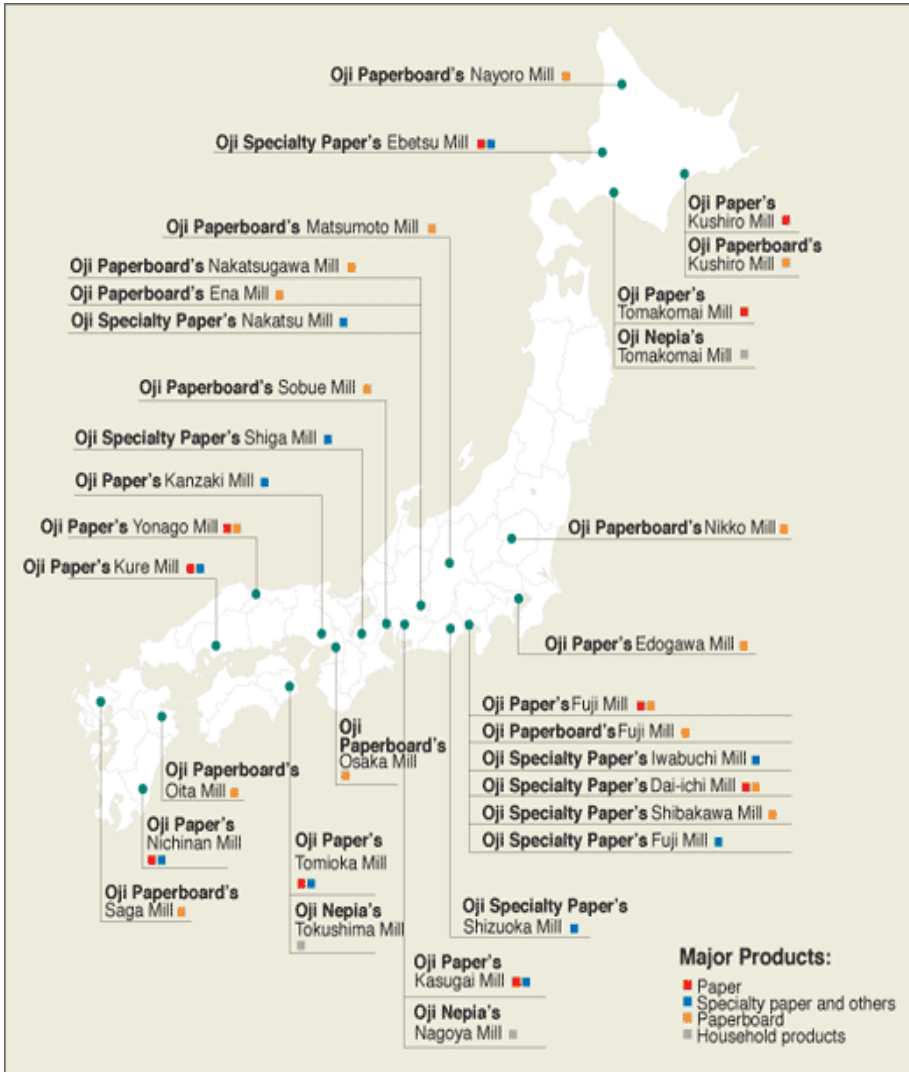
industry should perform its duty for society.” Shibusawa set forth his principles of business management that emphasized the need to combine good business practice with good ethics. So Fujiwara consistently managed the company considering the prospects for the future and education to cultivate the abilities of staff members.

Following Japan’s defeat in the World War II, the Excess Economic Powers Decentralization Act was implemented, effectively dividing the company into three components: Tomakomai Paper, Jujo Paper, and Honshu Paper. The newly founded Tomakomai Paper Co., Ltd. strove, reconstructed the Tomakomai Mill through improvement and perfection of equipment. As a result, in 1951 the company produced 498 tons a day, which surpassed the highest prewar production record of 475 tons. One very important strategy adopted by Oji Company, was the creation of a research laboratory institute. Meanwhile, the Central Research Laboratory was founded at Shinonome district in Tokyo (in 1957) in order to promote the improvement of the quality of products and to develop new products. Furthermore, the Institute for Forest Tree Improvement was established at Kuriyama in Hokkaido (in 1956) and also the Kameyama Forest Tree Improvement Institute opened in Mie Prefecture (in 1957). They began to carry out research on how to improve the breeding of trees for the purpose of propagating tree planting.

As a result, under this strategic development, Oji Paper was rapidly setting up the production of paper, proceeding to carry out the plan for the modernization of mills and technical innovations along with the promotion of setting up larger plants. Eventually, the company merged with Kita Nippon paper (1970), Nippon Pulp Industries (1979), and Toyo Pulp (1989). In 1993, Oji Paper merged with Kanzaki Paper and became Oji Paper. Furthermore, in 1996, New Oji Paper and Honshu Paper merged into Oji Paper (Figure 1). Currently, Oji Paper is one of the largest and most influential paper manufacturers in Japan, as well in the world.⁸ Obviously, the management diagram is based on a group structure (Figure 1)

8 For further information, see: <http://www.ojipaper.co.jp/English/group/corporate/history.html>.

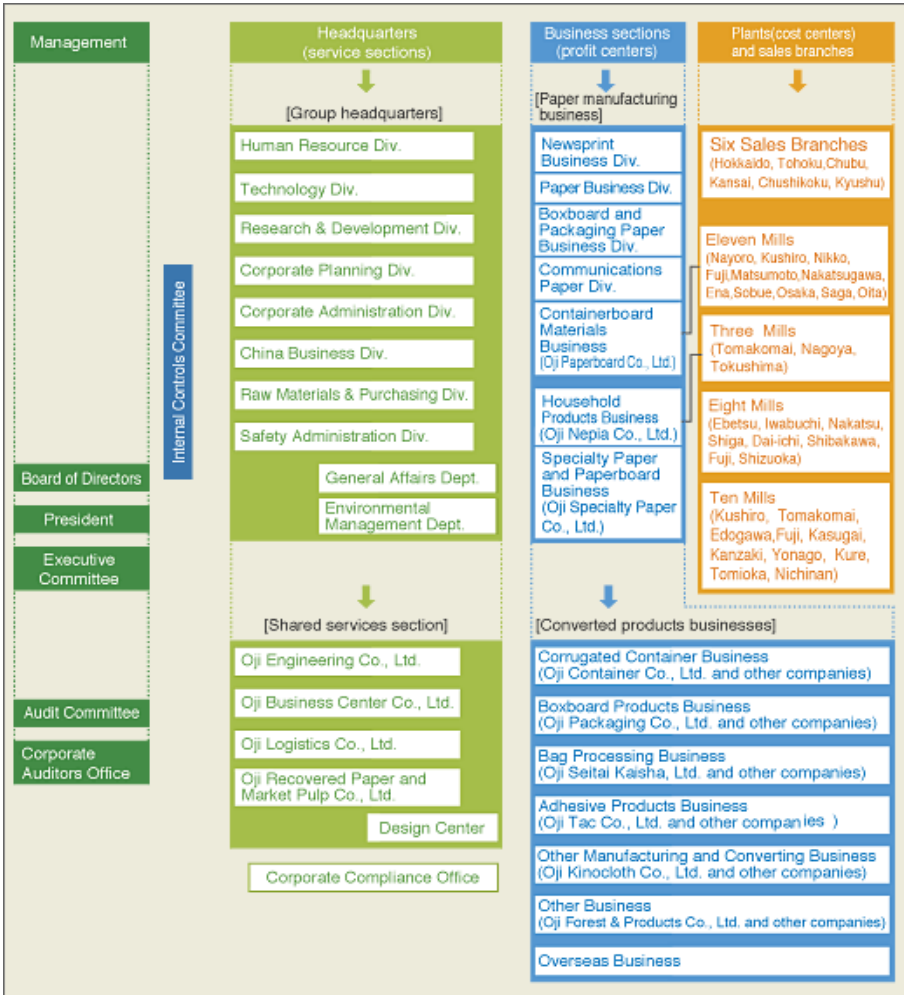
Figure 1. Oji's Management Structure



Source: See Oji Paper Group, ojipaper.co.jp/English.

Figure 2. Oji’s Management Structure

Group Management Structure



Source: See Oji Paper.co.jp/English (Group Structure).

Challenge

Japan was the first rank in importation of round wood (log), chips and particles, and was second to the United States in importation of sawn wood. Japan’s total wood demand was 105 million m3 in 1987 and slightly decreased in 2005, 86 million m3. Only 31% of this was produced domestically, the other 69% was imported (Yoshiyai Iwai, 2004). In 1960, Japanese wood demand reached 71 million m3, but continued to increase until it exceeded 110 million

m3 in 1972. Because of the economic recession caused by the first oil shock of 1970s, the demand for wood then decreased until the mid-1980s, before increasing again in the late 1980s.

The above mentioned on wood importation was challenge of Japan how to provide her wood supply sustainability for her pulp and paper industries. Specifically explained here how the Oji Paper has own strategy whether internationally and domestically to procure wood as raw material.

Wood Raw Material Policy: in case of Oji

Oji Company's policy is to make efforts to procure raw material through sustainable forest management. There are some procurement guidelines: (1) expand procurement of wood from certified forests; (2) increase the use of plantation trees; (3) utilize unused wood effectively; and (4) ensure raw material traceability. Oji paper will work to trace the origin of wood raw material and confirm that it was from well-managed forests (Figure 3 & 4). Oji Paper will be particularly vigilant about illegal logging woods.

Table 6. Composition of Wood Chip Procurement

FY	Material		
FY2004	Imported hardwood 58%	Imported Softwood 15%	Domestic Softwood 24%
FY2011	Imported hardwood 66%	Imported Softwood 12%	Domestic Softwood 19%

Source: Oji Paper.co.jp. *Ibid.*

Note: The Fiscal Year (FY) 2011 plan includes wood raw material procured for a new plant.

Table 7. Plan for Increase in Plantation Trees and Certified Wood for Import

FY04	Oji Paper Plantation 8%	Plantation trees 72%	Sawmill residue 9%	Low-grade, natural trees 13%
FY011	Oji Paper Plantation 16%	Plantation trees 81%	Sawmill residue 6%	Low Grade, natural trees 13%

Source: Oji Paper co.jp. *Ibid*

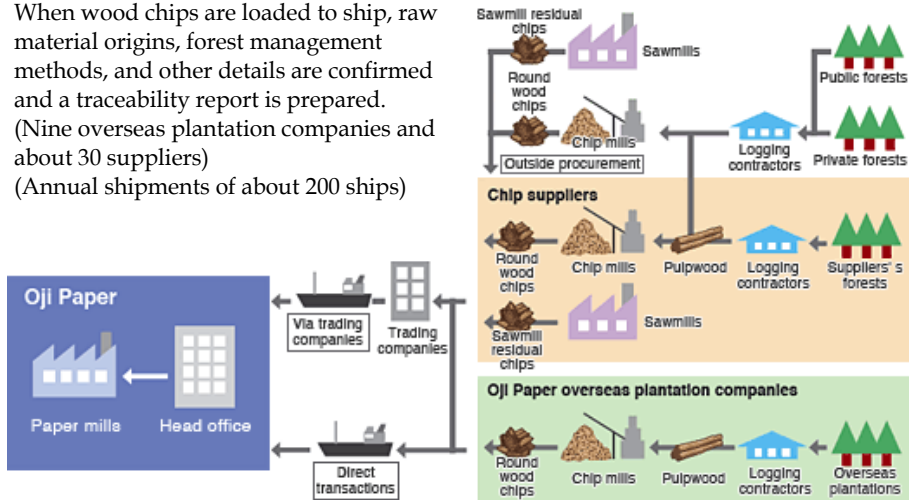
Table 8. Plan for Expansion of Oji's Paper Overseas Plantation (ha)

Fiscal Year	Plantation
Fiscal Year 2004	140,000
Fiscal Year 2011	300,000

Source: *Ibid.*

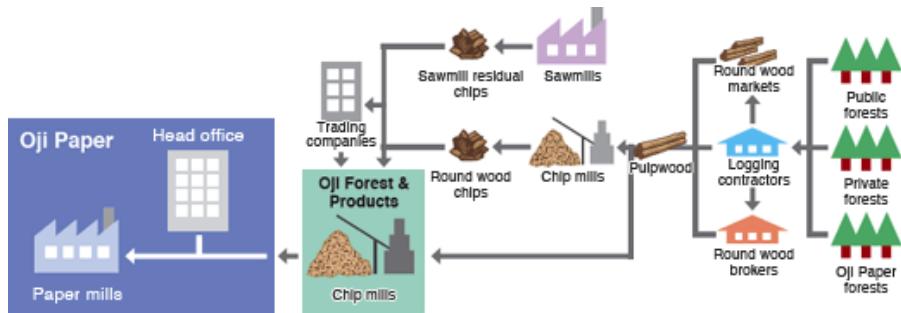
Figure 3. The Process of Raw Materials and Shipping to the Head Office

When wood chips are loaded to ship, raw material origins, forest management methods, and other details are confirmed and a traceability report is prepared. (Nine overseas plantation companies and about 30 suppliers) (Annual shipments of about 200 ships)



Domestic wood chips

- Procurement of domestic wood chips is handled by Oji Forest & Products.
- Oji Forest & Products has representatives in major cities across Japan to meet with suppliers.
- Raw material origins, forest management methods, and other details are confirmed and traceability reports are prepared on a regular basis. (About 700 suppliers)



Source: Oji Paper.co.jp/English.

Figure 4. Tree Plantations, Mills and Factories Overseas

Pulp & Paper Products/Communications Papers/Converted Products/Household Products/Afforestation

Location of Overseas Mills and Plantations



The objective of sustainable forest management is to achieve environmentally, and socio-economically sound forest management. The criteria of environmental sustainability are to preserve biodiversity and ecological processes. Meanwhile, social sustainability means to sustain human society, which relies on forests. Economic sustainability means to sustain the viability of forest-related companies and communities. Therefore, objective criteria and indicators have been established for evaluating sustainable forest management for Japan and its regions with similar natural conditions and social backgrounds. On the other hand, forest certification entails a defined process of evaluation and certification by in-depth third-party organizations. A forest is well managed according to sustainable forest management criteria. Internationally recognized forest certification schemes, include the *Forest Stewardship Council (FSC)*, the *Sustainable Forestry Initiative (SFI)*. The *Sustainable Green Ecosystem Council (SGEC)* is the locally recognized forest certification scheme in Japan (Table 8)

Oji paper's effort to procure raw materials is to plant industrial timber plantation in many countries, for example, in China, Thailand, Vietnam, Laos, New Zealand, Australia (Tasmania, Adelaide, Brisbane, Victoria, Albany, etc.) and Canada (*Pulp and Paper Statistics, 2006: 24*). The representatives in some countries inspect shipments of wood chips, advise on quality, and meet with the suppliers. The ship cargo is prepared by Oji Company. These annual shipments are about 200 ships. In contrast, Oji Forests & Products has representatives in major cities across Japan to meet with suppliers.

Research and Development (R & D)

The progress of a company depends on utilizing *Research and Development* (R&D) as a strategic function to step ahead into the future. In the case of Oji, as the largest paper company in Japan, because of an optimal utilizing of R&D for driving progress forward for the company, this makes an important contribution to society through R&D activities targeted toward the discovery of new possibilities in paper products and the forests and trees from which it is made. Undoubtedly, new technologies, products and services are the driving force for continuing growth and success. On the other hand, Oji Company focuses on acceleration of the creation of new advances by increasing its research and development through: (1) Pulp and Paper Research Laboratory, which is in charge of strengthening core business and supporting the technical development of new products; (2) Imaging Media Development Laboratory; with the rapid advance of the information age, this company is developing products to meet customers' needs for paper in the role of information communication media; (3) Fundamental Technology Research Laboratory; conducting research in peripheral fields of paper, development of new materials, new manufacturing methods and systems, and biotechnology applications; (4) Forestry Research Institute; in view of environmental technology on a world scale, the institute is developing the efficiency of afforestation abroad and developing new species which are suitable for afforestation areas and paper manufacturing material; (5) Material Analysis Center; high analysis and evaluation technology are indispensable to maintaining and improving high quality products and the development of new products; and (6) Intellectual Property Department and R&D Management Development; This is supporting the promotion of protecting rights, such as to new technology, and maintenance of the company's rights.

Corporate Code of Conduct

As mentioned above, a key success of Oji is an optimal utilizing of R & D which is intensively implemented. Besides, Oji also strongly holds to its "Corporate Code of Conduct." This code of conduct acts as guiding principles for corporate activities based on awareness of the company's responsibilities as a corporate citizen and on high ethical principles appropriate for an organization that enjoys the support of society. The implementation of the code of conduct is a significant step for Oji Company, such as compliance with the law; harmony with the environment; supply for sale of useful products and services; communication with society; co-existence with the international community; contribution through manufacturing; and achievement of employee satisfaction.

2. Nippon Paper Group

This company is the second largest after the Oji Company concerning the paper business group in Japan, with Y1.179 trillion in annual group sales in 2005. The group's core business is divided among four divisions, namely, (1) Pulp and Paper Division; (2) Paper-Related Division; (3) Housing and Construction Materials Division; (4) and Other Division (Figure 4.8). The Nippon Company is a publicly listed company on the Tokyo Stock Exchange with total assets of Y1.530 trillion and profit after tax of Y24.4 billion, and 13,774 employees.

History of the Nippon Paper Company's Development

The initial stage of Nippon Paper began with a merger among pulp and paper groups. For instance between Fuji Seisho, which built Kushiro Mill in 1920, and Kyushu Seisho, whose Yatsuhiko Mill started operation in 1924. They agreed to merger in 1933 and built Hokkai Kogyo. On the other hand, this company also built Sanyo Pulp Kogyo in 1937, established Iwakuni Mill in 1939, followed by Kokusaku Pulp Kogyo in 1938, and then established Asahikawa Mill in 1940. It agreed to a merger in 1945 between Asahikawa Mill and Yufutsu Mill under Dai Nippon Saisei-Seishi.

Through the merger of these companies, the Nippon Paper Industry was established as a paper manufacturer on August 1, 1949, with capital of 104,873 million yen. Under the leadership of Masatomo Nakamura the company rapidly developed many branches of the industry and established the promotion of a structure and launched a philosophy (Figure 9). The Nippon Company emphasizes its philosophy "as a member of society, we shall proudly promote activities that contribute toward social development." This consists of three principles, namely, (1) contribution to cultural heritage and development; (2) contribution to conservation and improvement of the environment; (3) and contribution to the development of communities.⁹ It is obvious that in all of its operations that the Nippon Company being consistently committed to working in harmony with the environment, sustainable business development, fairness, risk management as a member of society and it will be critical importance to their success.

A radical step was taken again on March 30, 2001, when the Nippon Paper Group was formed as Nippon Unipac Holding, which was a pure holding company of Nippon Paper Industries Co., Ltd and Daishowa Paper Manufacturing Co., Ltd., to facilitate the companies' integration of their operations. The Nippon Unipac Holding changed its name to Nippon Paper Group, Inc., on October 1, 2001. On April 1, 2003, the Nippon Paper Group introduced a new organizational structure under which the paper

⁹ See "Philosophy & Social Contribution Subcommittee," at http://www.np-g.com/e/csr/ideology/social_commission.html.

business and paperboard business “the Group’s two core operations” were consolidated and reorganized under the Nippon Paper Industries Co., Ltd and the Nippon Daishowa Paperboard Co., Ltd, respectively. Currently, The Nippon Paper Group consists of Nippon Paper Group, Inc., Nippon Paper Industries Co., Ltd, Nippon Daishowa Paperboard Co., Ltd and their 145 subsidiary companies and 49 affiliated companies, actively involved in manufacture and sales of pulp and paper.

Wood Raw Material

The Nippon Paper Group has been very smart in launching procurement of ‘raw materials’ by establishing plantation areas through a global supply chain management, such as from New South Wales, Australia, Victoria, Burnbury, Green Triangle, Western Australia, Victoria, Chile, South Africa, Quesnel, B.C., Canada, Peace River, Alta., Canada, Port Angels, USA, Longview, Washington, USA, and China. The production of raw material (*Eucalyptus trees*) for wood chips and shipping with the company’s own cargo ships, owned by Nippon Company directly, transported to Japan, processed to pulp and it is all carried out within the company.¹⁰ Nippon Paper’s basic policy to procure raw materials are: (1) environmentally friendly raw materials procurement; (2) socially aware raw materials procurement; (3) promotion of dialogues with stakeholders; Tree Farm Initiative afforestation activities in overseas countries to create sustainable sources of hardwood chips. The targets of more than 100,000 ha of afforestation area, and more than one million dry tons of wood chips supplied annually from afforested area, will be achieved by fiscal 2008. This company will acquire forest certification on 100% of the total imported hardwood chips in 2008.

Besides, the Nippon Company also established a philosophy and basic policy on ‘product safety’ in October 2004. This company considers it as corporate responsibility to provide safe products and services. The activities of the entire group are aimed at gaining high levels of trust from their customers and making an increased contribution to society. The philosophy is installed in the company’s determination “to work is to improve safety at every stage of the life cycle of the products, from design to manufacture, supply and disposal, and to provide products and services trusted by public that the public.”¹¹

Products

This company produced 8.7 million tons of paper and paperboards in 2003

10 The three largest pulp and paper companies (Oji, Nippon and Daio), own at least 91 cargo ships for shipping wood chips from overseas. Interview carried out with Mr. Fujiwara, staff of Paper Museum, in Oji, Tokyo, on October 8, 2006.

11 See <http://www.np-g.com/e/csr/ideology/products.html>

(*Japan Pulp and Paper, 2005*). The development of product quality of the company carried out, is usually based on the optimal utilization of research and development (R&D) in many divisions. In case of the Nippon Paper Group, Nippon Daishowa Paperboard Co., Ltd. operates a number of paperboard businesses. Paperboard has diverse everyday applications as low-cost and light weight packaging materials, typified by corrugated paperboard and paper boxes. Meanwhile, it also manufactures specialty paper products, namely, teabag filter paper, air filter bag paper, pulp wrapping paper, meat casing paper, insulation paper, wiper paper, tracing paper, oiled paper, facial tissue, and so on.

Nippon Paper-Pak Co., Ltd. provides liquid-packaging cartons for milk and juice with a three-pronged marketing approach involving machine sales, carton supply and maintenance service. Based on abundant expertise and outstanding technology, the company has achieved a 33% share of the liquid-packaging carton market, as the leading company in packaging for food, beverages and household items in Japan.

Nippon Paper Lumber Co. Ltd. Deals with raw wood and sawed logs, and sells domestic lumber. It also manufactures plywood and laminated lumber products, and collects and sells pulpwood, wood chips and wastepaper, including the production of cellulose fiber insulators. Nippon Paper Creca Co. Ltd. makes a lineup of household paper products that include two world-renowned brands, Kleenex and Scottie, which are synonyms for tissue paper. Other products namely, facial tissue, bath tissue, paper towels, pre-moistened wipes, personal-care products, and industrial-use wipes.

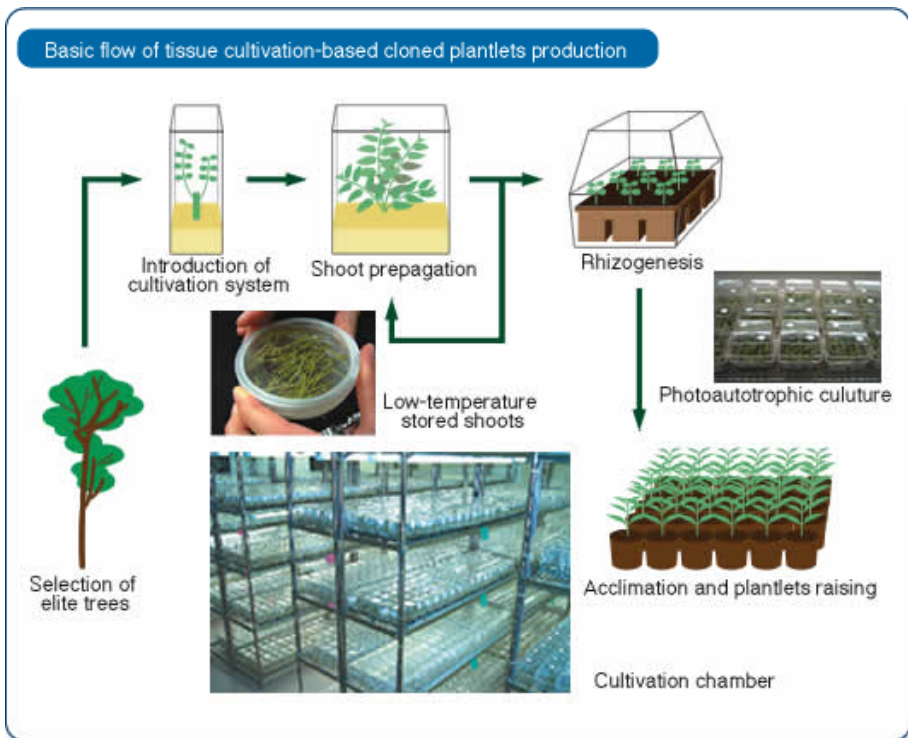
Research and Development (R&D)

The Nippon Paper Group utilization of R&D is very significant. It has been considered as a strategic vision to produce high quality paper products in the future. This company emphasizes its corporate activities in sustainable development by creating green products, to achieve a recycling-based society and worldwide environmental protection. The company is constantly developing new technologies and products through fresh innovation. The Company's R&D policies are "responsiveness to user needs," "augmentation of our global competitiveness," and "regard for improvement," and it conducts comprehensive R&D activities from research fiber resources through the improvement of production technology efficiency and the development of high-quality products with innovative features. Therefore, it is important to implement efficient and comprehensive R&D from raw materials through finished products. Nippon Paper Industries has consolidated its research functions in Tokyo's Kita ward, where it undertakes all of its paper and pulp R&D activities.

The Research and Development organization consists of five laboratories: (1) the Forestry Science Research Laboratory, which takes charge of forestry and biotechnologies; (2) the Pulp and Paper Research Laboratory, which develops pulp and paper technologies; (3) the Product Development Research Laboratory, which manages the development of new products to meet emerging needs; (4) and the Intellectual Property Department, which manages the intellectual property generated by R&D activities; (5) R&D Planning and Administration Department, which handles the general affairs of the division. Thus, by optimization of these R&D functions leading products are achieved constantly in the future.

One of the R&D findings is that Nippon Paper Industries has developed two tissue culture technologies known as “photoautotrophic culture technology and low-temperature storage techniques,” with which it has succeeded in mass clone propagation of *Eucalyptus globulus* and other products (Figure 5).

Figure 5. Basic Flow of Tissue Cultivation-based cloned plantlets production



Nippon Paper Group Makes an Acquisition in Hokuetsu Paper Mill

Generally speaking, a company which could make acquisitions of another company requires two prerequisites: (1) a healthy managerial and profitability condition of its company; (2) the maximal utilization of R&D so that making acquisition of another company will result in more integration. Obviously, the two prerequisites above have been fulfilled by Nippon Paper Group in making acquisition of shares in Hokuetsu Paper Mills (the sixth largest paper mill in Japan). At that time, Nippon Paper purchased 13,356,000 Hokuetsu Shares (8.49%) on July 28, 2006, making it the second largest shareholder in the papermaker after the trading company Mitsubishi, which had a 24.4 percent stake on August 7 (*The Japan Times*, August 25, 2006). In a report submitted to the government the same day, the Nippon Paper Group said the shares were purchased by Nippon, a fully owned subsidiary, for a total of Y10.7 billion, or Y806 per share, on average (*The Japan Times*, August 5, 2006).

The objective of the share acquisition, according to Nippon Paper, is not intended as an acquisition of a controlling stake in Hokuetsu Paper, but aimed at potential business integration, and so on. On the other hand, Nippon Paper has been strongly aware of the importance of a strong business foundation and operational rationalization by way of consolidation and business integration, and it has itself taken a lead in the industry with this respect.

Why does Hokuetsu paper refuse a takeover of her share (40 percent) by Oji Paper? It appears that this company (Hokuetsu) prefers to work with Mitsubishi and Nippon Paper. There are some arguments in favor to this. Firstly, an Oji takeover would damage shareholders value. The company said a merger with Oji would cut its pre-tax profit in fiscal year 2009, between Y13.4 billion and Y17.9 billion. Secondly, its tie-up with Mitsubishi would generate at least Y3 billion in additional profits, as it would include procurement and distribution benefits. Thirdly, Hokuetsu Paper's employees mostly refuse Oji's Paper's acquisition. Fourthly, Oji's takeover plan has drawn fire from local government officials and business leaders in Nagaoka and Niigata Prefecture. For example, regional lenders Hokuetsu Bank and Daishi Bank, who each have a 2 percent stake in Hokuetsu, also have refused to sell to Oji (*The Japan Times*, August 25, 2006). Mr. Masaaki Miwa (Hokuetsu President) said: "We are fully confident that we can block Oji's attempt." (*The Japan Times*, August 10, 2006.) Herewith, this paper highlights the business strategy of the Oji and Nippon companies (Table 9).

Table 9. Business Strategy of Oji and Nippon

ISSUES	OJI	NIPPON
Raw Material	Certified Forest; 140,000 ha (2004); 300,000 ha (2011) Overseas 80% (New Zealand, Australia, Chile, China, Vietnam, Laos. Domestic 20% (Japan)	Environmentally friendly; 100,000 ha (afforestation); Hardwood import 100% by 2008. Overseas 70% (S. Africa, Australia, Brazil, Domestic 30%
Product Scopes & Annual Sales and Profit, Total Assets	1.9 million tons of Paper and Paperboards; Y1.185 trillion sales; Y43.3 billion profit; Y1.6 trillion assets.	8.7 million tons of paper and paper specialty; Y1.179 trillion sales; Y24.4 billion profit; Y1.5 trillion assets.
Product market	Aggressive expansion; Overseas (16 mills): China, EU. Full vertical integration	Aggressive expansion; Overseas (17 mills): China, EU, USA. Full integration
Production Facility	Japan (32 mills): R&D priority	Japan (22 mills); R&D priority
Management & Institutionalization	Professional managers; Merger with other companies; Listed in Tokyo SX: actively selling equity share and find out liability from banks.	Professional managers; Merger with other companies; Listed in Tokyo SX: actively selling equity share and liability from banks.

Source: Processing data by writer based on information available concerning the companies.

Concluding Remarks

It is generally recognized that Meiji government had great contribution on political stability, social and economic development of Japan. Meiji launched a program concerning on educational institutions, modernized old factories set up by the former Shogun and lords, built paper industries (1872), built infrastructure such as railway from Tokyo to Yokohama in 1872, improved the condition of roads, established of post office (1871), established Tokyo Gas (1885), constructed textile mills (1890) and iron and steel factories, established financial groups such as Mitsubishi, Mitsui, Sumitomo, Yasuda, which eventually become *Zaibatsu* (big traders) and so on.

Besides, one of the high government officers in the Meiji period, who contributed many ideas for building ‘entrepreneurship’, was *Eiichi Shibusawa* (1840-1931), focusing his encouraging ideas to establish ‘paper and printing industries’ through three large business such as Mitsui, Ono and Shimada-using British and United States engineering and technology. This effort was fruitful by establishing the Oji Company in 1873 and Nippon in 1949. Currently both companies appear as the first and second biggest paper companies in Japan. Increasingly linked to global market, the trades in paper companies’ products appear to be ‘international scheme’. In line with the rising of wood demand, paper and paperboard production also rapidly increased from 30 million metric tons in 1995, to 31 million m³ in 2001, and became 32 million

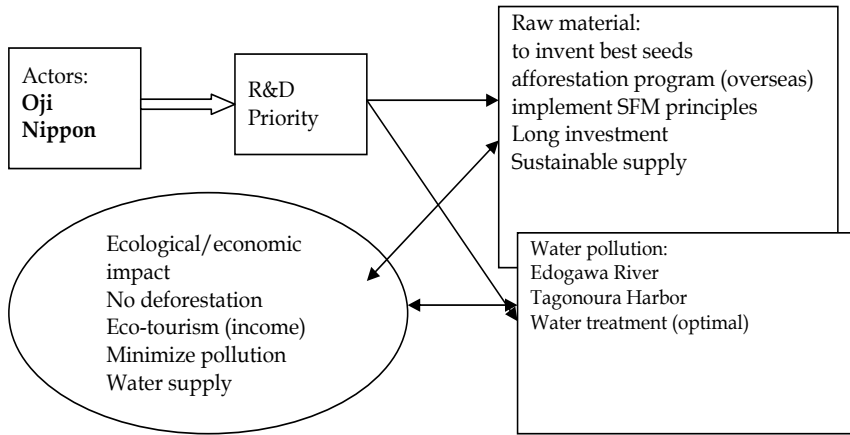
m³ tons in 2005. Currently pulp and paper industries was produced 21 units in Japan, hold a very strategic position and subsequently categorized number 13 among 15 the *largest manufacturing* industries in Japan, whose total sales amount Y 6.8 trillion. The industry absorbed 34,839 employees. The largest manufacturing industry shown is the transport machinery whose total sales amount to Y 49.5 trillion and general machinery, Y 24.8 trillion, in the second place. In this matter, Oji Company became the largest producer of paper in 1995, reaching 3.6 million metric tons (mt), increasing to 6.5 mt in 1997 (19.4% production share) with sales of Y 980 billion. In the second was replaced by Nippon, producing 3.0 million mt (a 10.1% share) and others. They are really aware that their country (Japan) has 'poor resources' and lack of forest land areas. Thus, pulp and paper holders, as R&D priority launched a strategy to produce the best quality of tree seeds. These seeds could be planted in HTI areas (*Industrial Timber Plantation*) in domestic as well broad, which emphasize environmental friendliness in overseas areas. From the forest management perspective, this strategy is very beneficial for two rationales. Firstly, Japan's forest and its environment could be maintained through sustainable forest management and eventually produce through ecologically friendly methods in Japan. Secondly, by carrying out the plantation of trees for the procurement of timber from overseas (Latin America, Southeast Asia, Australia, New Zealand, China, etc.), Japan actually has shifted 'deforestation' and its environmental problems from domestic arena to become the affairs of other countries.

How do factors greatly contribute to progress pulp and paper industries in Japan? Some of reasons are able to develop rapidly of pulp and paper industries: (1) the government created conducive conditions by giving good investment sphere such as, launching incentive credit from the banks, simple tax law, and by providing good infrastructure (roads and ports); (2) the sustainability of procuring raw materials (wood) both domestic and overseas (Southeast Asia, Latin America: Brazil, Chile, Peru), Australia, New Zealand, China, etc; (3) the optimal using of Research and Development (R&D) was well managed; (4) innovative technology of pulp and paper industries to be more competitive; (5) a big domestic market for paper products reached 60-70 percent of its production; (6) establishing overseas of paper factories in emerging market in Asia Pacific such as in China (Shanghai), Australia (Canberra), Brazil, etc.

How does the lesson for the paper industry in Indonesia? The government officer should give incentive economic policy such as easy access to get credit from bank and Stock Exchange Market (Jakarta and overseas), tax holidays for an early establishing paper industries, providing a good infrastructure in terms of road and port and timber plants concession. Besides, the paper company officers implemented smart management such as accountable management,

to extend the role of research and development (R&D) to produce the best quality of plant seed, providing raw material by planting trees, innovative technology, to open access to international market and domestic as well and so forth.

Figure 6. Pulp and Paper Management from upstream to downstream (The case of Japan)



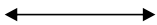
Source: data processing by writer
 Note: SFM (Sustainable Forest Management).



: access to (R&D institute)



: R&D launches priority steps for upstream program (raw material) and downstream (pollution).



: interaction effect (if properly managed) which will eventually lead to positive results.

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