

JFTC Essay Competition 2008, Prize for Excellence

Reinforcing the Japanese Brand as Environmental Leader: The Role for Corporations

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(summary)

In my essay I argue that Japanese corporations are at the forefront of the environmental business, which is manifested in a vast array of branches. The central point is that Japan can confidently aspire for the role of environmental leader, thanks to the expertise and technological solutions it has developed so far. There are several factors that have brought Japanese corporations to this level of advancement in environmental protection. First, the phase of rapid development in the 1960s was accompanied by emergence of environmental complications. Coupled with the tightening oil market, it was a strong incentive for Japan to introduce measures towards more efficient solutions. This positive trend has been reinforced by substantial investments in R&D, and the Japanese private sector was a significant contributor to this progress. Second, the 21st century has daunted the humanity not only by the quantity of environmental changes, but also their unprecedented nature; only a global approach can bear fruit in dealing with global ecological challenges. At the corporate level, Japan has been particularly active in the fast-developing East Asian region, which is a potential source of new environmental burdens. Last but not least, Japanese businesses are equipped with “soft” assets stemming from their culture and predestining them to think and act long-term – a crucial quality, as preserving the Earth requires planning for decades ahead.

Evidently, the Japanese business sector is well-prepared to face environmental challenges which are a constraint charactering the 21st century. Nonetheless, the secret resides in turning these limitations into business opportunities, and examples abound proving that entrepreneurs from Japan are on their way to establish a better balance between profitability and Earth conservation. The automotive branch and recycling are two fields which illustrate efforts of both huge and small enterprises towards Earth preservation. This trend would not be possible without a growing environmental market, with consumers demanding “greener” products and rewarding companies which pursue eco-friendly strategies. Competition in the environmental market means that environmentally-friendly products are becoming more accessible in terms of prices – for example, hybrid vehicles.

Last but not least, this progress has been made possible by the engagement of ordinary people who make the effort to recycle the waste and choose “green” products. This commitment is a precious “fuel” that boosts environmental consciousness in Japan and beyond its borders, fostering sustainable development on a global scale.

(full text)

Reinforcing the Japanese Brand as Environmental Leader: The Role for Corporations

Introduction

In the corporate world, even a threat or limitation can become a source of lasting success, because very few manage to translate challenges into opportunities. Japan has proven to be a skillful and efficient player in the world plagued with environmental challenges. Scarcity of natural resources has not prevented the Japanese from excelling in numerous sectors and competing on a global scale. Japan has understood that a competitive edge is not given, but has to be gained – with perseverance and creativity. In this way Japanese corporations came out successfully of the oil crisis of the 1970s, which was a strong incentive to introduce energy efficiency measures and alternative energy sources. The beginning of the 1980s was marked with introduction of industrial conversion towards hi-tech branches – the step that benefits Japan till today. The rapid economic growth of the 1960s, when mass consumption society emerged in Japan, had side effects in form of environmental contamination, which is a “dark side” of the Japanese economic miracle. For this reason Japan understands the call for taking environmental measures in fast-developing regions nowadays, specifically East Asia, which can benefit from experience and technologically advanced solutions from Japan.

Undoubtedly, the 21st century has brought an unprecedented avalanche of ecological barriers to economic activity and sustainable development on the Earth in general. Not only oil, but also water gets scarce and consequently more expensive. The recent food crisis has shown that in spite of the progress in “taming” nature, it is continuously challenging humanity to operate under changing conditions. These are only few examples of “planetary emergencies”¹, which pose a threat to life on Earth. It needs to be stressed that tackling these issues can bear fruit only if a comprehensive, global approach is implemented. Still, cooperation between developed and developing countries is not yet advanced enough, and at times their interests are even contradictory.

How will Japan manage to face the evolving paradigm of environmental business? What will be the role of Japanese corporations? Will they manage to have an impact on a global scale in environmental issues? The purpose of this essay is to approach these and other questions, as well as put forward suggestions for the role of Japan in preserving the Earth through fostering sustainable development – both at the national and international level.

¹ A term introduced by Dr. A. Zichichi (see the article: A. Revkin, *At Conference on the Risks to Earth, Few Are Optimistic*, “New York Times”, 23.8.2008, <http://www.nytimes.com/2008/08/24/world/europe/24sicily.html?ref=science>).

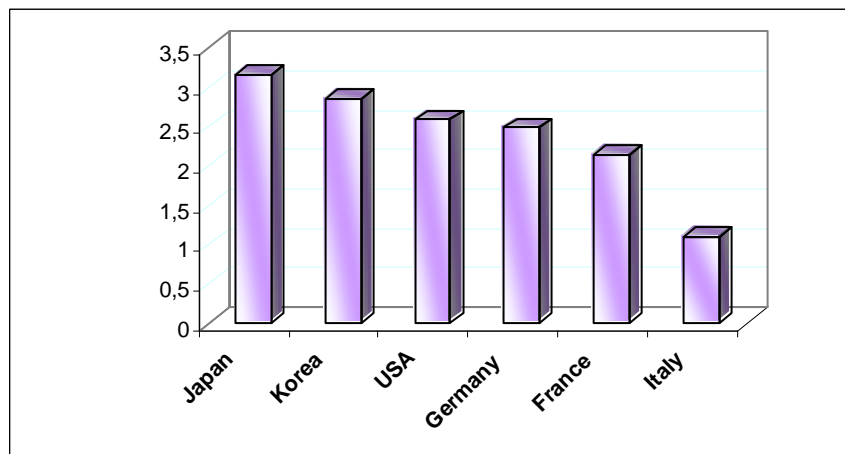
1. Adaptation of Japanese companies to environmental changes

The scarcity of natural resources implies that corporate success will depend heavily on the ability to use them efficiently, which requires investing in high technology and innovation. Rising prices of oil, climate change and ozone layer depletion – among others – have led to a greater awareness of environmental issues in the corporate world. On the other hand, sectors independent from reliance on natural resources are also part of the solution. The service sector can be a “safe haven” in times characterized by the scarcity of resources. Therefore, Japan should implement a comprehensive strategy to operate successfully under these new conditions. First, it must strive for more efficiency in energy-intensive industrial branches. Second, a special attention ought to be devoted to the service sector, which does not depend directly on natural resources. Finally, both private and public initiatives should support a long-term agenda of Earth preservation, with technology and innovation as tools to support this objective. In brief, technological advancement means that an economy can expand without depleting natural resources.

1.1. Japan as a top performer in R&D

What has been done so far in the field of research and development? Japanese companies are privileged to operate in a country with a solid reputation for investment in R&D. Currently it amounts to over 3% of the GDP, a percentage higher than in most other OECD countries². Moreover, it is constantly increasing, and in the year 2007 it reached a historical record of 3.62% of GDP³. A comparison with chosen advanced economies can be observed on the following chart.

Chart 1. Gross domestic expenditure on R&D as a percentage of GDP in 2004



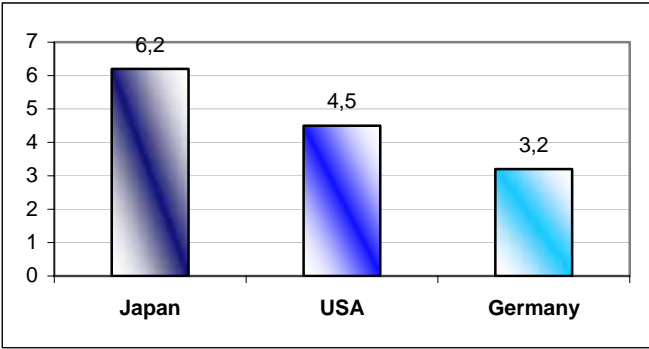
Source: OECD statistics.

² H. Yamamoto, *Japanese R&D Draws More Attention*, “Japan Economic Monthly”, JETRO, November 2005, http://www.jetro.go.jp/en/market/report/pdf/2006_03_u.pdf, p. 2.

³ *Survey of Research and Development 2007*, Ministry of Internal Affairs and Communications, <http://www.stat.go.jp/english/data/kagaku/1534.htm>

What also proves the seriousness of Japanese engagement in research is the growing number of individuals active in R&D. In 2007 the total number of R&D personnel in Japan exceeded 800,000 persons⁴. Consequently, the country can boast a ratio of researchers to total population higher than other industrialized countries (compare the chart below).

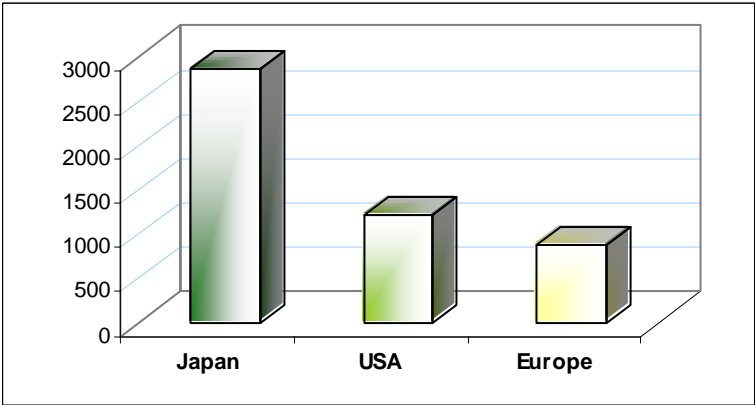
Chart 2. Researchers per 1,000 people in Japan, USA and Germany



Source: H. Yamamoto, Japanese R&D Draws More Attention, “Japan Economic Monthly”, JETRO, November 2005, http://www.jetro.go.jp/en/market/report/pdf/2006_03_u.pdf, p. 3.

This investment has a high impact on innovation in Japan, which has been constantly improving over the years. In 2003 Japan accounted for 21% of industrial patents worldwide, while in 1980 it was 12%⁵. Notably, Japan is a global leader in the number of registered environment-related patents, as can be observed on the following chart.

Chart 3. Comparison of the number of environment-related patents in Japan, Europe and the USA in 2005



Source: Attractive Sectors: Environment, JETRO, January 2007, <http://www.jetro.go.jp/en/invest/attract/environment/env.pdf>, p. 5.

⁴ Ibidem.

⁵ T. Friedman, *The World Is Flat*, Penguin Books, London 2006, p. 349.

1.2. Japanese companies and R&D

What characterizes the Japanese R&D sector is the exceptionally high share of corporations. Around 80% of R&D outlays stem from the private sector, which distinguishes Japan from other industrialized countries, where this indicator generally does not exceed 70%⁶. Even amid sluggish economic growth in the 1990s, corporations in Japan did not reduce their engagement in research and development activities. How can this phenomenon be interpreted? It is evident that Japanese companies see R&D as investment that will certainly pay off in future. Nowadays, a company that does not appreciate the importance of new technologies will soon fall behind.

In the recent years, Japanese corporations follow a “3 R’s” strategy in their research objectives: reduce (1), reuse (2) and recycle (3)⁷. This term has a Japanese equivalent, *mottainai*, which literally means “what a waste”⁸. It is a response to the paradigm shift of the 21st century, when the focal point has been moved from expanding disposal facilities to serve mass waste societies towards a culture of recycling – a foundation of sustainable socio-economic systems.

2. Seeking opportunities in environmental business

There is a growing environmental consciousness among Japanese companies, which have started to view eco-friendliness not only as their social responsibility, but also a business opportunity. According to the recent data, an increasing number of corporations quotes environmental management as “important strategy” (27.5% of surveyed companies in 2004, up from 22% in 2002)⁹. Furthermore, these declarations are followed by practical steps, as businesses strive for being granted a formal certification confirming their efforts for preserving the Earth¹⁰. A new phenomenon is emergence of rankings which assess corporate engagement in ecologically friendly activities. Evidently, Japanese companies are on their way to balance environmental needs and business objectives better than ever before. Because of growing environmental awareness among consumers, “green” companies will be winners of tomorrow.

2.1. Expansion of environmental market in Japan

The environmental market in Japan was given a boost for growth in the second half of the 1990s. The incentive came from the government, which wanted to bolster the image

⁶ H. Yamamoto, *op.cit.*, pp. 3-4.

⁷ *Attractive Sectors: Environment*, JETRO, January 2007, <http://www.jetro.go.jp/en/invest/attract/environment/env.pdf>, p. 5.

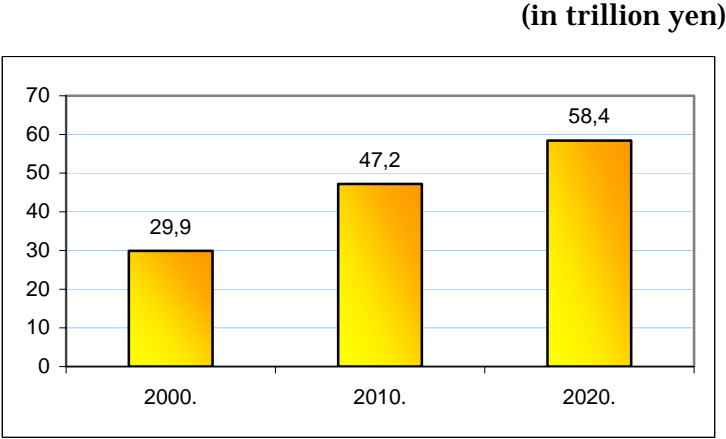
⁸ *The Japanese way*, “Time”, http://www.time.com/time/specials/2007/article/0,28804,1730759_1734222_1734215,00.html

⁹ M. Ito, *Environmental Consciousness Increases in Japanese Business*, “Japan Economic Report”, JETRO, June-July 2006, http://www.jetro.go.jp/en/market/report/pdf/2006_20_ms.pdf, p. 1.

¹⁰ For instance, ISO 14001 certification.

of Japan as a leader of science and advanced technology. Thus, the Basic Law on Science and Technology was introduced in 1995, and it was a commencement of 5-year plans aimed at reinforcing R&D in Japan¹¹. Notably, one of the focal points in the first plan in the 21st century was the environment. Henceforth, expansion of the Japanese environmental market has gained a lasting momentum, and further growth is expected (see the following chart).

Chart 4. Current state and future projections on the scale of the Japanese environmental market

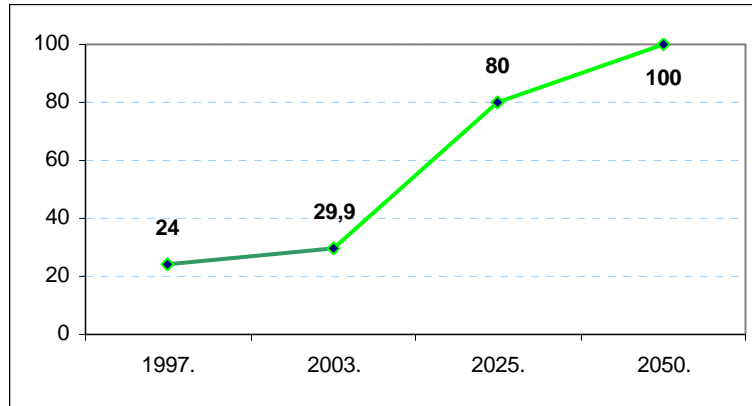


Source: 10 Advantages to Investing in Japan, JETRO, September 2006, <http://www.jetro.go.jp/en/invest/whyjapan>, p. 19.

On the whole, there are several factors that have led to better prospects for environmentally friendly business in Japan. Apart from legal framework and R&D spending, it is also a surge in environmental awareness among both companies and consumers. Only the willingness of clients to spend on “green” products enables producers to allocate resources in the environmental business. There are several ways to measure environmental awareness in the population. According to JFS (Japan for Sustainability), the percentage of “green” consumers in Japan reached 29.9% in 2003. It means that nearly one third of the Japanese are willing to buy ecologically friendly products. As can be observed on the chart below, the targets have been set high, and the percentage of “green ” consumers should reach 100% by the year 2050.

¹¹ H. Yamamoto, op.cit., p. 4.

Chart 5. Percentage of green consumers in Japan: current state and future targets
(in %)



Source: Percentage of Green Consumers, JFS Indicators, Japan for Sustainability, <http://www.japanfs.org/en/view/index/n-5.html> [accessed 26.8.2008]

2.2. Car of the future – facing high energy prices

Japanese automakers are at the forefront of ecologically friendly business. They offer not only hybrid vehicles (with two or more distinct power sources), but also electrical or compressed natural gas (CNG) cars. The table below illustrates the development of this market sector in the recent years in Japan, which is characterized by rapid growth.

Table 1. Number of low-emissions vehicles used in Japan

Year	Number of vehicles
1999	56,794
2000	74,682
2001	107,050
2002	128,437
2003	180,374

Source: Eco-friendly vehicles, JETRO,

<http://www.jetro.go.jp/en/invest/attract/automotive/environment.html> [accessed 1.9.2008]

Nowadays hybrid models are especially popular, constituting the majority of low-emissions cars in Japan¹². In order to respond to this demand, Toyota plans to apply

¹² *Eco-friendly vehicles*, JETRO,

hybrid systems also to its mass-produced vehicles so that eventually around one fifth of all its models will be hybrid vehicles. Toyota Prius, a vehicle with hybrid drive, has been ranked by the German Automotive Club (VKD, Verkehrsclub Deutschland) as the best eco-friendly car, followed by Civic Hybrid by Honda¹³.

Starting from 2010, Toyota plans to manufacture the Prius also in the USA, which so far has been produced only in Japan¹⁴. If it helps to spread the environmental boom abroad, then this step will go beyond international expansion and count as a pro-environmental initiative. Optimally, emerging markets and developing countries will be next in adopting innovative, eco-friendly vehicles. However, in their case the price will be of overriding importance. For this reason it is vital that low-emissions cars enter mass production possibly soon; in a competitive market economy, it is a guarantee of falling prices. Luckily, we already observe a fierce competition among automakers in the environmental market. Most of the leading car manufactures in Japan set environmental goals high on their agendas already in this decade. Both producers and consumers will benefit when hybrid vehicles enter into the mainstream, and this common interest should bring the moment when it happens closer.

After hybrid vehicles another step seems to be pure electric vehicles (EVs), which currently account for a small share of low-emissions cars in Japan – but their popularity has been growing. Mitsubishi Motors Corporation has plans to launch such a vehicle (i-MiEV) in 2009 – first in Japan, later also in overseas markets where these vehicles are already tested¹⁵. Their production should be growing steadily – starting from 2,000 vehicles in 2009 – till it reaches mass-market scale in future. The i-MiEV will be the first mass-produced 100%- electric vehicle; apart from this, Mitsubishi Corp. considers launching a plug-in hybrid model as well.

Low-emissions vehicles constitute a very significant sector of the environmental market, which offers business opportunities not only for automakers, but also manufacturers of components for production of eco-friendly cars. The examples I have presented above show that these trends have found a fertile ground in Japan.

2.3. Small and medium enterprises - big difference

Unsurprisingly, huge Japanese corporations find it easier to implement high environmental standards. Small and medium enterprises (SMEs) operate under tight constraints of limited budgets, and oftentimes do not enjoy a favorable access to expertise

<http://www.jetro.go.jp/en/invest/attract/automotive/environment.html> [accessed 1.9.2008]

¹³ *Japan bei Öko-Autos führend*, „Berliner Morgenpost“, 21.8.2008,

http://www.morgenpost.de/printarchiv/wirtschaft/article855245/Japan_bei_Oeko_Autos_fuehrend.html

¹⁴ D. Walewska, *Mniej silników Toyoty z Polski*, „Rzeczpospolita”, 29.8.2008, B6 [Polish newspaper]

¹⁵ J. Murphy, *Mitsubishi Looks to Russia for Growth*, “Wall Street Journal”, 25.8.2008,

http://www.wsj.com/article/SB121961239951067233.html?mod=todays_us_nonsub_marketplace

and technologies. For this reason, a substantial part of global pollution is generated by companies of small or medium size¹⁶.

Yet, in Japan there are numerous examples of smaller companies which are at the cutting edge of environmental business. Through specialization and localizing market niches they successfully tap into opportunities offered by this thriving sector. For instance, Tamagawa Seiki Co. is a manufacturer of parts for hybrid vehicle motors, holding a global market share of 100%¹⁷. Hybrid cars offer an alternative to gasoline vehicles, and their importance will be growing as fossil fuels are depleting.

2.4. Towards a zero-waste society

Fortunately, recycling is becoming a ubiquitous phenomenon in the developed world. What rate of recycling is optimal? Is a society without waste possible?

A small Japanese village, Kamikatsu on the Sikoku Island, is on its way to be the first waste-free society worldwide. Due to new environmental regulations, two nearby incinerators were closed; it was an impulse for launching this impressive initiative of not producing rubbish at all. Although the deadline for reaching this ambitious environmentally friendly objective has been set for the year 2020, Kamikatsu can already boast a substantial progress in eliminating waste. The rate of recycling in the village has soared to 80% from 55% in 1998. Of course, it has been possible thanks to effort and enthusiasm of local citizens who seem to understand the idea of recycling perfectly well. As one of the “eco-warriors” from Kamikatsu has put it “I think consciousness is growing that this is a good thing; that it's not just the right thing to do, but the only thing to do”¹⁸.

3. Japan's contribution to global sustainable development

The side effects of economic development include resource consumption and waste generation. A few decades ago, only Europe, Japan and the United States counted as heavy polluters. Nowadays, the model of mass consumption is spreading to remote corners of the globe. Moreover, this process is happening at an unprecedented pace. Currently many of these development hotspots are located in Asia, which is subject to rampant environmental degradation. For example, in April 2004 over 1,000 cars were added daily to Beijing, China – meaning 30,000 new cars a month in just one East Asian metropolis¹⁹. Thus, many emerging economies can soon face a barrier of growth. First, there are limits of Earth degradation. Second, pollution has its costs that can be

¹⁶ *Umweltbewusstes Wirtschaften – Deutschland und Japan vor den USA*, “Innovations Report“, 27.4.2001,

http://www.innovations-report.de/html/berichte/umwelt_naturschutz/bericht-2652.html

¹⁷ *10 Advantages to Investing in Japan*, JETRO, September 2006,

<http://www.jetro.go.jp/en/invest/whyjapan>, p.7.

¹⁸ J. McCurry, *Climate change: How quest for zero waste community means sorting the rubbish 34 ways*, “The Guardian”, 5.8.2008,

<http://www.guardian.co.uk/environment/2008/aug/05/recycling.japan>

¹⁹ T. Friedman, op.cit., p. 496.

calculated; only for China it has been estimated for \$170 billion a year²⁰.

Developing nations have right to enhance their economic status, just as Europe or Japan have done it before. Still, a time has come to strike a new balance between the need for growth and the need for environmental protection. It must happen both at the macro- and microeconomic levels. Governments should provide a framework for sustainable development, and corporations have to learn to transform these incentives into business opportunities. What will be the role for Japanese corporations? Are they willing to make their contribution to sustainable development also beyond the Japanese borders? Fortunately, there is a positive answer to this question, and numerous examples support this statement.

3.1. Global environmental challenges – the role for Japan

Preserving the Earth is a global challenge, thus it cannot be achieved without a global action. Already in the last decade the Japanese saw a need for international cooperation for a better environment. According to a survey conducted by the Environment Agency in 1997, 90% of the Japanese shared this opinion²¹. Now it is not only the concern of the developed world, but also emerging markets. So far their main business challenge was increasing labor efficiency, but amid growing energy prices, they have to pay more attention to “resource productivity”²². It is a proof of the globalization of environmental issues, which requires a closer cooperation between rich and developing countries.

3.2. Japan bolstering environmental technologies in East Asia

In the era of globalization and high integration of national economies, also environmental issues need to be faced beyond the national perspective. It is especially true for Japan, which is an unquestionable leader in eco-friendliness in the East Asian region. After a period of robust industrialization in the 1960s, Japan had come to realize that there is a price of fast development: environmental contamination. For this reason, rapidly developing economies of East Asia can learn from the Japanese example and strive to minimize degradation of natural environment. However, it would not be possible without assistance of a technologically advanced country with experience in environment conservation. Japan does not only fulfill these criteria, but has also shown willingness to engage in eco-friendly initiatives beyond its borders.

In particular, Japanese entrepreneurs have already undertaken specific projects on the Asian continent. They view it not only as their contribution to reinforce the idea of global sustainable development, but also as an opportunity to expand their businesses beyond

²⁰ Ibidem, p. 497.

²¹ *Commitment to Environmental Issues*, Japan Fact Sheet, <http://web-japan.org/factsheet/pdf/ENVIRONL.pdf>, p. 2.

²² *A bigger world*, “The Economist”, 18.9.2008, http://www.economist.com/specialreports/displayStory.cfm?story_id=12080751

the Japanese borders. So far, it has been a win-win solution, where both sides benefit from their environmental cooperation: developing nations of East Asia gain access to advanced technologies, and corporations from Japan find new overseas markets. For example in China Japanese companies provided expertise in implementing recycling methods, basing on the same technological solutions as implemented in Japan itself²³.

3.3. Saving tropical rainforests

Japan is active in various fields of environment protection, what can be corroborated by examples of Japanese corporations. One of these areas is reclamation of tropical forests, which are under threat of total destruction – not only in the Amazon, but also Southeast Asia. Mass deforestation is not only the result of a growing demand for wood. Even more importantly, forest areas are converted into agricultural land as a consequence of rising food demand and biofuels production. Millions of additional hectares of land will be required for palm oil cultivation in Indonesia, as well as biofuels production in China – just to quote two examples²⁴.

How is Japan contributing to limit this destructive phenomenon? Mitsubishi Corporation has been engaged in projects in Malaysia and Brazil, with the aim of reclaiming tropical forests²⁵. Toyota Boshoku Corporation has been active in Indonesia, cooperating on a forest revitalization project together with other organizations, among others JIFPRO (Japan International Forestry Promotion and Cooperation Center)²⁶. This initiative is a successful example of combining economic and environmental goals, as reforestation will lead to creating new jobs in Indonesia²⁷.

These are only two examples, but there are other Japanese trading companies, as well as paper manufactures, which make their contribution to afforestation initiatives abroad.

4. Beyond the indicators: “soft” assets of the Japanese culture

Not everything can be measured; for this reason intangible, “soft” factors need to complement measurable achievements. As has been shown so far, Japan excels in a range of rankings measuring environmental efforts. Still, it is worth taking this analysis of the Japanese eco-friendliness into a deeper level.

While business is often about chasing short-term objectives, Japan can be proud of its commitment to pursuing long-run strategies. Facing environmental issues requires a long-term orientation, and Japanese corporations are very familiar with planning for decades ahead; they are not daunted by the remoteness of environmental goals. This

²³ M. Ito, op.cit., p. 7.

²⁴ *Biofuels, food demand may doom tropical forests*, 15.7.2008, <http://news.mongabay.com/2008/0714-forests.html>

²⁵ *Commitment to Environmental Issues*, op.cit., pp. 3-4.

²⁶ More about this organization can be found at: <http://www.jifpro.or.jp/>

²⁷ *Toyota Boshoku Plans Tropical Forest Revitalization Project in Indonesia*, News Release, 30.8.2006, <http://www.toyota-boshoku.co.jp/en/whatsnew/pdf/06083001e.pdf>, p. 1.

observation has been corroborated by studies in the field of business cultures. Japanese managers put development of the company high on the agenda, going beyond profit-chasing. Institute for Management Development (IMD) in Lausanne, Switzerland, publishes yearly a competitiveness ranking; when they ask managers, which nation can best deal with long-term planning, they invariably answer: “Japanese”. According to the authors of the acclaimed book “Seven Cultures of Capitalism”, this quality constitutes the competitive edge of Japanese corporations²⁸. It is accompanied by the notion of responsibility and commitment, best summarized in the following quotation: “Once Japanese people embrace an idea, they do so wholeheartedly. Environmental consciousness is no exception”²⁹.

Preserving the Earth has become more than a socio-economic phenomenon; for many Japanese it is a way of life. Whether in Kamikatsu or in Tokyo, more and more Japanese are embracing environmental consciousness. As Hiroyuki Torigoe from Waseda University put it, there is a need to introduce a “culture-oriented” strategy to protect the environment³⁰.

Conclusion

So far Japan has built a strong basis for expanding its pro-environmental potential, which is a complex system based upon expertise and technology. In particular, Japanese corporations have seized new opportunities offered by the environmental market. In our globalized world, both business and environmental protection have become global. For this reason, Japan cannot limit itself to act exclusively within its borders. Several international initiatives have already been undertaken, proving that Japan can be an important global contributor in the field of Earth preservation.

Still, future developments are uncertain and difficult to foresee. How will Japanese companies respond when next environmental challenges emerge? Whatever these new demands will happen to be, I am convinced that the spirit of *mottainai* will be the “fuel” enabling Japan to maintain the momentum in preserving the Earth for next generations. Eco-friendliness is a winning strategy both in terms of business and environment. Realizing it is the first step, taking action is the second, and maintaining the momentum is the third one – and the most ambitious one. I have no doubt that Japan’s corporations will continue to pursue high standards of environmental protection at all the stages, setting an example for the global community.

²⁸ Ch. Hampden-Turner, A. Trompenaars, “Siedem kultur kapitalizmu”, Oficyna Ekonomiczna, Kraków 2006, p. 146 (in Polish).

²⁹ *The Japanese way*, op.cit.

³⁰ From the webpage of the Korea Rural Economic Institute (KREI), http://www.krei.re.kr/eng/publication/news_view.php?bn_idx=7682&cpage=1 [accessed 20.9.2008]