

High Hopes on Club of Rome's Revived Japan Chapter

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The Club of Rome has revived its chapter in this country in the form of its Japanese Association. Taking this auspicious occasion, I would like to express my great expectations for the restored chapter, recalling that the Japan Techno-Economics Society (JATES) contributed to activities of the Club of Rome as the Secretariat of the club's Japan Committee and that JATES, of which I am executive director, is also engaged in survey and research activities regarding global environmental problems together with JATES member firms.



Outline of Japan Techno-Economics Society

JATES was formed in 1966, or 10 years after the establishment of the Science and Technology Agency, as an organization primarily for technical personnel to pursue their studies on management for the purpose of contributing to the reinforcement and promotion of Japan's policy on science and technology. It has been successively headed by Daigoro Yasukawa (former president of Yaskawa Electric Corp.), Toshiwo Doko (former chairman of the Federation of Economic Organizations or Keidanren), Koji Kobayashi (former president of NEC Corp.), Shoichi Saba (former president and CEO of Toshiba Corp.), Shoichiro Toyoda (former president of Toyota Motor Corp.) and Tsutomu Kanai (former president of Hitachi, Ltd.). At present, various activities are undertaken by about 800 corporate and individual members of the society, headed by Hajime Sasaki, former chairman of NEC Corp.

Since its inception, JATES has taken up technical and managerial problems across the whole of Japanese industry and, together with its members, engaged in activities such as practical research on management, fostering able personnel, dissemination of knowledge and enlightenment. One of its important themes is how best to steer the manufacturing industry toward a low-carbon society.

Relationship between JATES & Club of Rome Japan Committee

(1) How JATES Came to Function as Club's Tokyo Office

The Club of Rome contacted Japan for the first time in June 1969 when Yasukawa, the first president of JATES, visited Paris to attend a conference of the Organization for Economic Cooperation and Development (OECD) and met with Aurelio Peccei, the founder of the Club of Rome (vice president of Olivetti S.p.A.), at the office of A. King, head of the OECD Directorate for Science, Industry and Technology, through the good offices of Ambassador Tadao Kato of the Japanese Mission to the OECD. On that occasion, Peccei asked Japan to join the Club of Rome.

Then, 10 Japanese, including Saburo Okita, participated in the Club of Rome in support of its purpose. Okita was appointed as one of the club's six standing committee members and took the lead in propagating the club's guiding principles in Japan. In October 1969, Dr. E. Janz, a technical advisor to the OECD Science and Technology Committee and a founding member of the Club of Rome, held a lecture in Japan, and in November of that year, club leader Peccei came to Japan. On

that occasion, a panel discussion with Peccei was held by Kogoro Uemura, chairman of Keidanren; Prof. Keiichi Oshima of the University of Tokyo; Okita, president of the Japan Center for Economic Research; and people concerned with JATES. Japan thus organized positive activities for contribution to the Club of Rome and as many as 10 Japanese (four academic experts and six industrial leaders) became members of the club, constituting the largest national contingent. Consequently, Japan won wide acclaim among the members concerned.

In 1973, the Japan Committee of the Club of Rome was formed by 11 people – 10 club members plus Rikuzo Koto of Keidanren, listed in *Table 1* – under the chairmanship of Okita. As a result, JATES, which had functioned as a Japanese secretariat for the Club of Rome since October 1969, was formally commissioned to serve as the secretariat of the club's Japan Committee. The reason is that many of the Japanese club members had been deeply concerned with the activities of JATES as directors from the outset.

(2) Publication of "The Limits to Growth"

The Club of Rome commissioned the Massachusetts Institute of Technology (MIT) to clarify crucial problems of the modern world and their mutual relations, and explore solutions. The result was a report titled "The Limits to Growth," published in March 1972. The report, which aroused global awareness of the crisis confronting humanity, was immediately translated into various major languages and sold more than a million copies, thus producing worldwide repercussions.

TABLE 1

Inaugural members of Japan Committee, Club of Rome

Keiichi Oshima	Professor, University of Tokyo
Saburo Okita	President, Japan Center for Economic Research
Koji Kobayashi	President, NEC Corp.
Kogoro Uemura	Chairman, Federation of Economic Organizations
Kenichiro Komai	Chairman, Hitachi, Ltd.
Takashi Kikawada	Chairman, Tokyo Electric Power Co.
Yoshishige Ashihara	Chairman, Kansai Electric Power Co.
Shigeki Tashiro	Honorary Chairman, Toray Industries, Inc.
Kenzo Tange	Professor, University of Tokyo
Noboru Shinohara	Ex-member, Council for Science and Technology
Rikuzo Koto	Managing Director, Federation of Economic Organizations

The Japan Committee deemed it necessary to introduce the report into Japan as soon as possible. Its translation went ahead rapidly under the supervision of Okita, making it possible to publish a Japanese version as early as May 1972. The publication in such a short space of time owed a great deal to the cooperation of the Club of Rome Japan Team comprising young members, with then Assistant Prof. Yoichi Kaya of the University of Tokyo playing a leading role. JATES was also entrusted with the translation of the chapter on the views of the Club of Rome, and its precise translation contributed to elucidating the significance of the report.

(3) Club's 4th General Assembly Held in Tokyo

The activities of the Club of Rome have been guided by the General Assembly of its members, held once a year, and the Executive Committee, which meets once a month. In the meantime, moreover, the club members have exchanged opinions and announced their study results at their region-by-region meetings. The first General Assembly took place in Bern, Switzerland, the second in Montebello, Canada, and the third in Paris, France.

The Japan Committee of the Club of Rome invited the General Assembly to Japan in 1973, and the fourth General Assembly was held in Tokyo for four days from October 24 to 27, accompanied by symposiums where study results were announced by various countries, followed by debate. The number of participants reached as many as 500, including 57 from abroad. The General Assembly brought into focus various problems such as energy, food, the North-South gap and the value system, and came up with important clues to their solutions. This was a truly great achievement of this General Assembly. As many as 150 reporters gathered to cover the General Assembly, which was thus played up by newspapers every day. JATES, for its part, served as a secretariat for the General Assembly and all staff from the secretary-general down devoted themselves to leading the meeting to a signal success. (Photo 1)

JATES Activities for Environment & Ecology

JATES is engaged in diverse activities related to the environment and ecology, and some of their specific examples are detailed below. Table 2 shows its environmental and ecological activities over the past five years.

(1) Symposiums on Technology & Management

JATES has held a symposium every April since 1972 with a view to grasping the portents of technological innovation vital for the for-

PHOTO 1

Photo: JATES



Japanese delegation to the fifth General Assembly held in Berlin, Germany in 1974.

mulation of corporate management and technological strategies. In recent years, the industrial community has been called upon to deal with a wide variety of environmental problems, such as global warming, waste recycling and control of chemical substances, and efforts are being made to promote advanced environmental business aimed at the simultaneous achievement of reduction in the impact on the environment and the enhancement of corporate profits.

At a time when the Japanese economy remains stuck in protracted stagnation in the aftermath of the international financial crisis, JATES, for its part, held a symposium in 2010 on the main theme of the "Road to revitalizing the Japanese economy by means of environmental and ecological technologies and contribution to the international community" for the purpose of exploring how best to invigorate the Japanese economy with science, technology and industry – especially technologies and industries related to the environment and ecology – as leverage.

At this symposium, we asked prominent leaders in various spheres, including industrial policy, parts/materials, social infrastructure such as railways and power plants, international projects and economics, to give lectures from a comprehensive perspective. Lively question-and-answer sessions took place between the audience and lecturers, shedding light on the problems confronting Japan and the direction of a strategy Japan should pursue hereafter to enliven its economy. Moreover, it was confirmed to have records of those lectures carried in our society's magazine "Technology & Economy" for distribution among a broad scope of opinion leaders at the forefront of industry, government and academia, and invite their views. At the same time, the participants agreed to have the results of the symposium pursued continuously as one of JATES' principal themes.

TABLE 2

Major environment-related JATES activities over past 5 years (2006~2010)

2006	International symposium on energy & environmental education	Main theme: <i>Energy & environmental education for enriching knowledge of science & technology</i> ; lectures & panel discussions by prominent Japanese/foreign educational specialists
2006~2010	Life Cycle Maintenance Study Group (meeting once in 2 months)	Lectures & fact-finding trips regarding how best to create cycle-type society & maintain social infrastructure/production facilities
2006~2010	Lecture & discussion meetings on environmental issues at various management study groups	Lectures & discussions held on multilateral themes regarding relationships between corporate management & environmental issues
2008~2010	Committee Specialized in Environment & Energy (meeting once in 2 months)	Lecture & discussion meetings on instances of industry's advanced approach to environment/energy issues
2010	Symposium on technology/ management (held annually)	Main theme: <i>Road to revitalizing Japanese economy by environmental/ecological technologies</i> ; lectures given by foremost leaders in various circles

(2) Study & Research at Specialized Committee

The Committee Specialized in Environment and Energy, one of study and research activities on technology and management issues, sponsored by JATES, is studying what the respective industries and corporations should do from the viewpoint of preserving the global environment and recycling natural resources as well as examining problems involved, necessary measures and R&D issues.

The committee, chaired by Junzo Kawakami, advisor to Hitachi, Ltd., held a total of 17 study meetings from March 2008 to September 2010 by inviting 21 lecturers, and altogether, 400 JATES members participated in debate.

The results of the specialized committee's study spanning about two and a half years were compiled into an interim report comprising the following (1) to (5) suggestions. The committee has decided to continue its study for another year so as to propose a set of specific measures.

- ① As regards measures to cope with the environment and energy, Japan stands at a technological advantage in the world. Even so, its policy for export promotion remains unstable.
- ② Measures for the reduction of CO₂ emissions should be tackled from the viewpoint of using nonfossil resources and propagating energy saving. Recourse to only emissions trading and a fixed-price wholesale purchase system will invite the hollowing out of industry. It is necessary to undertake a comprehensive study by making active use of market functions.
- ③ Henceforth, management/operation types of businesses such as the smart grid and social infrastructure-related undertakings should be cultivated.
- ④ Amid the ongoing progress in global corporate management, it is imperative to establish new business models and make an active response to standardization and environmental regulation trends.
- ⑤ Environment and energy are the keywords for the surroundings of management and it is necessary to continue R&D efforts in that respect.

(3) Book for Energy/Environmental Education Published

In view of the importance of correctly transmitting the energy and environmental problems to the next generation, JATES set up a working group for study and research on energy and environmental education in April 2005, and went on to work for two years to create a new model of energy and environmental education.

The working group organized an interdisciplinary and comprehensive debate involving a wide scope of people concerned with energy, including not only energy experts and teachers of science, social studies and other courses, but also corporate technicians and public relations personnel. This study method, based on an industry-academia partnership, won enthusiastic acclaim as a new research model.

In 2005, a fact-finding survey was conducted regarding energy and environmental education at Japanese primary, junior high and senior high schools, while a survey group was dispatched to five countries – the United States and four European nations – to look into advanced education models. In 2006, the working group undertook research and study concerning the development of a specific curriculum contributory to the advancement of Japan's energy and environmental education. At the same time, it invited world-famous energy and environmental education experts from abroad and promoted the exchange of opinions between these visitors and many Japanese concerned with education.

PHOTO 2

Photo: JATES



Children studying in a classroom (an example of model environmental lessons in Nara)

These accomplishments of the research and study team working group were published in book form under the title of “*Energy/Environmental Education for Sustainable Society*.” (This represented a commemorative event marking the 25th anniversary of the founding of the Watanabe Memorial Foundation for the Advancement of Technology.) The book emphasized the necessity of energy and environmental education, noting that such education for young people is indispensable for the establishment of a sustainable society and that the development of superior curriculums and programs for energy and environmental education is vital for maintaining educational efficacy at a high level. Thus, the book produced profound repercussions in various quarters.

About 3,500 copies of the book were distributed to schools and public institutions throughout the country and put to effective use. (Photo 2 shows children receiving environmental education in a classroom.)

Expectations for Revived Japanese Chapter

It is to be hoped that the revived Japanese Chapter of the Club of Rome will positively propose a new framework by adding Japan's viewpoint of *monozukuri* (manufacturing) to the environment management scheme geared to economic mechanisms which is advocated by Europe and the United States. For instance, there is a simple doubt about the extent of substantial reduction in CO₂ emissions through emissions trading and a fixed-price wholesale purchase system. After all, the essential settlement of the problem appears possible only through a policy of squarely undertaking innovation. Herein lies what is most expected of Japan by the world. It is also deemed Japan's important role for contributing to the world.

In former days when the Club of Rome was at the height of its activity, intensive studies were undertaken in various parts of the world, based on the same awareness of the problem involved as that of the MIT report. MIT analyzed the world as a uniform system without differentiating between developed and developing countries. By contrast, a Japanese team of the Club of Rome, formed by young members, has put forward a model of distribution type by incorporating characteristics peculiar to the respective regions. It needs to be noted that this proposal has been highly regarded abroad as a useful complement to the MIT team's research.

It is the ardent hope of JATES as the former secretariat of the Japan Committee of the Club of Rome that the club's activities will keep on contributing to the realization of a harmonious environment and economic advance, and that the club will thus come to enjoy a heyday again across the world. **J.S.**

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