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JAPANESE OFFICIAL DEVELOPMENT ASSISTANCE AND ENERGY EFFICIENCY PROJECTS

John Briggs

Abstract: This comment examines the likelihood that the Japanese government will promote investments in energy efficiency programs in the developing world with funding from its Official Development Assistance (ODA). The Japanese Prime Minister has stated that Japan will support the promotion of sustainable development in the developing world, primarily through disbursements of its ODA funds. The need to promote investments in energy efficiency projects in the developing world is widely accepted by proponents of sustainable development. However, the likelihood that Japan will replace its current ODA energy program, which targets investments in energy generation, with a program that promotes investments in energy efficiency and conservation is remote. The Japanese governmental organizations that formulate and implement ODA policies and the Japanese business interests that have economically benefited from power generation projects can be expected to strongly resist this switch in investment within the ODA energy sector. At best, programs of energy efficiency will be an adjunct, rather than a replacement of Japan's current ODA energy sector investments.

INTRODUCTION

The Japanese government recently announced its intent to play a leading role in the global sustainable development movement, primarily through disbursement of its Official Development Assistance (ODA).¹ ODA provides developing nations with grants and loans to assist them in achieving economic development. Although Japan has both the financial and technological capabilities sufficient to implement sustainable development goals, its current ODA policy, which emphasizes large capital-intensive projects with few environmental safeguards, is inappropriate. The outcome of Japan's attempt to change its aid policy will ultimately be determined by the types of projects approved and funded by Japanese aid agencies in the future.

This Comment suggests that Japan will likely be largely unsuccessful in changing from its current ODA policy to a sustainable development approach, and that if sustainable development programs are implemented, they will likely supplement rather than replace the existing programs. Part I focuses on Japan's current plans to institute a sustainable development ODA

¹ H.E. Mr. Kiichi Miyazawa, Prime Minister of Japan, Speech at the United Nations Conference on Environment and Development (UNCED) (June 13, 1992) (transcript available from the *Pacific Rim Law & Policy Journal* office).

policy. Part II discusses the orthodox development and the sustainable development theories as applied to donor nations' ODA policies. Part III proposes that under its new ODA policy, Japan implement a sustainable development program of energy efficiency. The suggested program highlights an approach to energy generation which targets a developing nation's entire energy-user population, is ecologically sustainable, and does not require a large capital outlay. Part IV notes that the inertia of past practices inhibits Japan's transition to an ODA policy of sustainable development. Part V examines both the potential institutional barriers and the internal aid agency constraints a donor nation must consider when changing its ODA policy. Following an evaluation of these impediments as applied to the proposed energy efficiency program, Part VI of the Comment concludes that Japan can successfully implement a sustainable development agenda utilizing the Japanese business sector if it presents sustainable development projects as a complementary, not exclusive, ODA methodology.

I. AN OVERVIEW OF THE JAPANESE PLAN FOR AN ODA POLICY OF SUSTAINABLE DEVELOPMENT: THE RIO CONFERENCE

Japanese Prime Minister Miyazawa heralded Japan's intention to adopt sustainable development as a guiding principle for third world development in a statement read in his absence at the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro.² The presentation stressed the strengths and abilities Japan can bring to a concentrated program of sustainable development. Although Japan is often criticized for its past ODA practices, they have more experience with sustainable practices than they are given credit for. After extensive environmental degradation occurred during Japan's post-war rapid growth period, Japan instituted environmental regulations that have transformed it into an energy-efficient and environmentally-aware society.³ Japan has much to contribute to the protection of the global environment,⁴ and desires to impart its knowledge to the developing world.⁵ As noted in the presentation, the principal mechanism for this effort is Japan's ODA program.⁶

² *Id.*

³ *Id.* at 3.

⁴ *Id.* at 4.

⁵ *Id.* at 5.

⁶ *Id.*

Japan is also financially able to take on the responsibility. As Prime Minister Miyazawa's speech indicated, Japan's ODA allocations continue to grow, particularly the portion of ODA targeted at improving the global environment.⁷ During the fiscal years 1989-1991, Japan provided more than 400 billion yen (3.1 billion US Dollars) for environment-related aid.⁸ While Japan's reasons for pushing a sustainable development agenda were expressed in general terms, it is clear Japan has the funding to implement appropriate and well-planned programs of sustainable development in developing nations.

II. TRADITIONAL DEVELOPMENT THEORY VERSUS SUSTAINABLE DEVELOPMENT THEORY

A. *Traditional Development Theory*

It is dangerous to discuss past efforts at promoting development in the third world as if one monolithic development theory existed.⁹ However, for most proponents of development, it has meant increased economic growth.¹⁰ In the past, proponents of development emphasized the need for increased investment in the developing nation's economy, a high rate of growth in the manufacturing sector, and an environment that allows the economic effects to be transmitted to the rest of the developing nation's economy.¹¹ Development theorists postulated that foreign aid would increase domestic investment capital, which would lead to an increase in domestic investment; the product of this investment would be a more rapid rate of growth of the developing nation's GNP.¹² Foreign aid was concentrated in economic infrastructure areas such as transportation and power generation. The view was that such facilities were required before a nation could become a modern 'productive' nation.¹³

⁷ *Id.*

⁸ *Id.*

⁹ For an excellent discussion of the many varied approaches to development, see RODGER C. RIDDELL, *FOREIGN AID RECONSIDERED* 85-101 (1987).

¹⁰ While all development theories agreed on the need to increase the growth rate of the developing nation's economy, there have been a great variety of different approaches utilized to accomplish this goal. For a discussion of these different approaches, see generally RAYMOND F. MIKESSELL, *THE ECONOMICS OF FOREIGN AID* (1968).

¹¹ RIDDELL, *supra* note 9, at 88.

¹² *Id.* at 103.

¹³ See MIKESSELL, *supra* note 10, at 139.

The idea that growth and development are one and the same came to be attacked by persons writing in the field of development theory. These critics contend that the use of increased Gross National Product as an indicator of development is flawed;¹⁴ that assessment of development requires qualitative as well as a quantitative measures. GNP figures give no indication as to whether the benefits of the growth in the developing nations' economy are being distributed equitably.¹⁵ Even in some countries which have experienced rapid economic growth, real incomes for the rural poor have declined and the inequitable gap in income distribution has widened.¹⁶

Using growth in a developing nations' economy as the sole indicator of development also fails to take into consideration the factors of production that produced the increased growth.¹⁷ Rapid economic growth that relies on heavy natural resource use without accounting for associated environmental effects may increase a developing nation's GNP but may quickly deplete the nation's resource reserves and lead to environmental degradation.¹⁸ Poorly planned energy, agriculture and industrial development projects have caused extensive environmental damage in several developing nations.¹⁹

Another aspect of traditional development that is often not sufficiently accounted for is that the funding of large-scale projects is often susceptible to distributional inequities. Although nominally ODA assistance may be targeted for the needy sector, frequently little remains for distribution after the funds are filtered through various levels of government bureaucracy that become involved in large-scale projects. Thus, bureaucrats, urbanites and rural elites have disproportionately benefited from traditional development, at the expense of the poorest sectors of society.²⁰

¹⁴ MICHAEL REDCLIFT, *SUSTAINABLE DEVELOPMENT* 15 (1987).

¹⁵ *Id.* at 16.

¹⁶ RIDDELL *supra* note 9, at 149.

¹⁷ "From an environmental standpoint, then, GNP is a particularly inadequate guide to development since it treats sustainable and unsustainable production alike and compounds the error by including the costs of unsustainable economic activity on the credit side, while largely ignoring processes of recycling and energy conversion which do not lead to production of goods or marketable services." REDCLIFT, *supra* note 14, at 16.

¹⁸ CENTER FOR DEVELOPMENT INFORMATION AND EVALUATION, A.I.D. EVALUATION NEWS 1992 VOL. 4 - NO. 2, "GREEN ACCOUNTS": MEASURING NATURAL RESOURCE DEPLETION AND ENVIRONMENTAL DEGRADATION 18; *see also* ROBERT REPETTO & WILLIAM MAGRATH, *WASTING ASSETS: NATURAL RESOURCES IN NATIONAL INCOME ACCOUNTS: INDONESIA* (1989).

¹⁹ Stephanie C. Guyett, *Environment and Lending: Lessons of the World Bank, Hope for the European Bank for Reconstruction and Development*, 24 INT'L L. & POL. 857, 890-91 (1992).

²⁰ DONALD W. ATTWOOD, THOMAS C. BRUNEAU AND JOHN G. GALATY, *Introduction to POWER AND POVERTY, DEVELOPMENT AND DEVELOPMENT PROJECTS IN THE THIRD WORLD* 1, 4 (Donald W. Attwood, Thomas C. Bruneau and John G. Galaty eds., 1988).

B. Sustainable Development Theory

Sustainable development theory evolved in large part as a reaction to the perceived failures of traditional methods of development assistance. Whereas traditional development aid theory often does not sufficiently factor environmental costs into its project evaluation criteria, sustainable development theory advocates careful scrutiny of potential projects with respect to their possible environmental impacts.²¹

Although a precise definition of sustainable development is difficult to formulate,²² a starting point is provided by the Brundtland Commission, the United Nations Commission on Environment and Development formed in 1983. In 'Our Common Future,' the Commission defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."²³ Implicit in the Brundtland's definition of sustainable development is the realization that development premised on over-utilization of natural resources is unsustainable. Advocates of sustainable development maintain that in the modern era, natural capital, rather than manmade capital, is the limiting factor in economic development.²⁴

The Brundtland Commission identified conserving and enhancing the resource base as one of its seven strategic imperatives of sustainable development.²⁵ In particular, programs designed to increase energy efficiency will help a nation to limit its consumption of natural resources.²⁶ Energy efficiency programs are often seen as having the greatest potential for short-term contributions to a program of sustainable development.²⁷

²¹ John Horberry, *The Accountability of Development Assistance Agencies: The Case of Environmental Policy*, 12 *ECOLOGY LAW QUARTERLY* 817, 828 (1985).

²² Experts have varying definitions. JOHN PEZZEY, *SUSTAINABLE DEVELOPMENT CONCEPTS* 55-62 (1992). See also *THE STATE OF THE ENVIRONMENT*, OECD 1991; *CHANGING COURSE*, THE BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT 1992.

²³ THE WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT, *OUR COMMON FUTURE* 43 (1987) [hereinafter *OUR COMMON FUTURE*].

²⁴ Herman E. Daly, *From Empty-World Economics to Full-World Economics: Recognizing an Historic Turning Point in Economic Development*, in *POPULATION, TECHNOLOGY, AND LIFESTYLE* 23 (Robert Goodland et al. eds., 1992).

²⁵ *OUR COMMON FUTURE*, *supra* note 23, at 49.

²⁶ *Id.* at 59.

²⁷ STEPHAN SCHMIDHEINY WITH THE BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT, *CHANGING COURSE* 40 (1992).

III. A MODEL FOR JAPAN'S SUSTAINABLE DEVELOPMENT EFFORTS: AN ODA PROGRAM OF ENERGY EFFICIENCY

The importance of the role that energy development plays in the economic development of recipient nations is widely recognized among ODA experts, regardless of theoretical approach. Investment has been overwhelmingly made in energy generation facilities such as hydroelectric dams or power plants;²⁸ few ODA dollars are ever earmarked for projects of a more sustainable nature.²⁹

Developing nations' increasing demands for energy³⁰ require that ODA programs continue to address energy generation and energy conservation projects. To achieve its stated goals of sustainable development, Japan in particular must shift its emphasis from power generation to programs featuring energy conservation and efficiency.

A. *The Alternative Energy Source: Energy Efficiency*

1. *Energy Efficiency v. Power Generation*

A developing nation can service a growing energy demand in two ways: either by building additional energy generation capacity or by improving existing energy generation and energy use practices. Most ODA energy programs have financed the first option.³¹ Yet energy efficiency programs and products are a more sustainable alternative, in that they allow developing countries to meet their energy needs and increase their standard of living, while reducing the need to finance new energy generation capacity with public debt or increased tariffs.³² By reducing demand for power

²⁸ See Nicholas Lenssen, *Providing Energy in Developing Countries*, in STATE OF THE WORLD 1993 101, 117 (Linda Stark ed., 1993).

²⁹ For example, less than one percent of the World Bank's total energy lending to India during the 1980's targeted end-use efficiency projects. R. GODIVA RAO ET AL., INTERNATIONAL INSTITUTE FOR ENERGY CONSERVATION, THE LEAST COST ENERGY PATH FOR INDIA: ENERGY EFFICIENT INVESTMENTS FOR THE MULTILATERAL BANKS xi (1991).

³⁰ Developing nations accounted for 33 percent of global energy use in 1988. MUDASSAR IMRAN & PHILIP BARNES, ENERGY DEMAND IN THE DEVELOPING COUNTRIES: PROSPECTS FOR THE FUTURE, World Bank Staff Commodity Working Paper # 23 iii (1990); developing nations now spend over \$50 billion a year on energy and 20 percent of all World Bank loans are granted for electricity development; Christopher Flavin, *Electrifying the Third World*, in STATE OF THE WORLD 1987 81, 86 (Linda Starke ed., 1987).

³¹ See Lenssen, *supra* note 28, at 117.

³² Howard Geller, *Promoting Electricity Conservation in Developing Countries*, in ENERGY SYSTEMS 471, 471 (Mary Pat Williams Silveira ed., 1991).

among current users through conservation efforts and by making the entire energy system more efficient, energy, in effect, is created.

In the developed world, power planners utilize integrated least-cost energy planning to compare energy investment options and select the least expensive option.³³ "The objective is to provide services such as heat, light, refrigeration, and motor power—not energy per se—at the lowest possible cost. For meeting new power needs, a kilowatt-hour saved from waste is indistinguishable from a kilowatt-hour delivered by a new power plant."³⁴

Thus, under a program of integrated least-cost energy planning, investments in efficiency programs are more favorable than construction of energy generation facilities.³⁵ For example, new hydroelectric dams generally provide power at \$2,000-3,000 per kilowatt,³⁶ as compared with energy efficiency programs which can be implemented at a cost ranging from a few hundred dollars to \$1,000 per kilowatt.³⁷ Transmission and distribution costs can increase the price of energy generation projects another \$3,000 per kilowatt produced.³⁸

2. *Energy Efficiency has Fewer Environmental Side-Effects*

In addition, energy efficiency programs have few of the social and environmental problems associated with large-scale power generation projects.³⁹ While dams provide water for irrigation, power generation and water conservation, often their environmental costs escape consideration.⁴⁰ Large areas of highly productive agricultural areas can be at risk of permanent flooding when water behind the dam inundates river valleys.⁴¹ Also, reservoirs can cover large areas of tropical rain forests resulting in the

³³ RAO ET AL, *supra* note 29, at ix.

³⁴ WILLIAM U. CHANDLER ET AL, ENERGY EFFICIENCY: A NEW AGENDA 35 (1988).

³⁵ HOWARD GELLER, WORLD BANK ENERGY DEPARTMENT, ENERGY DEPARTMENT PAPER #32, END-USE ELECTRICITY CONSERVATION: OPTIONS FOR CONSERVATION: OPTIONS FOR DEVELOPING COUNTRIES 3 (1986) [hereinafter GELLER].

³⁶ *Id.*

³⁷ Geller, *supra* note 32, at 471. *But see* Paul Joskow & Donald B. Marron, *What Does a Megawatt Really Cost? Further Thoughts and Evidence*, THE ELECTRICITY JOURNAL, July 1993, at 14.

³⁸ Geller, *supra* note 32, at 471.

³⁹ RAYMOND F. MIKESSELL & LAWRENCE F. WILLIAMS, INTERNATIONAL BANKS AND THE ENVIRONMENT 75-80 (1992). Large dam projects are by far the most favored means of energy generation. From 1970 to 1988, the World Bank financed over four hundred dams in one hundred countries.

⁴⁰ THE INDEPENDENT REVIEW, SARDAR SAROVA: THE REPORT OF THE INDEPENDENT REVIEW xii (1992). For example, in the case of Sardar Sarova Dam in India, 37,000 hectares of land will be submerged, 245 villages destroyed and over 100,000 people will lose their homes.

⁴¹ Paul R. Muldoon, *The International Law of Ecodevelopment: Emerging Norms for Development Assistance Agencies*, 22 TEX. INT'L L.J. 1, 3 (1986).

loss of large numbers of plants and animals.⁴² Further, the irrigation projects associated with large scale dams often cause health hazards because the impounded water leads to the growth of disease-causing organisms.⁴³

B. *Implementing an ODA Program of Energy Efficiency*

1. *Promoting an Energy Efficiency Agenda in Developing Nations*

While an energy efficiency program requires greater interaction between the donor and recipient nations' aid representatives, the actual methodology of instituting the program is fairly simple and benefits many areas of the developing nation's economy.

Any ODA energy efficiency program must aid the developing nation's energy planners in several areas. First, the ODA policymakers must convince the developing nation's energy planners to charge accurate prices for energy.⁴⁴ Many developing governments currently subsidize their energy sector,⁴⁵ which leads to wasteful energy use.⁴⁶ With subsidized energy tariffs, there is no incentive to utilize energy-efficient products, which typically have a higher initial cost than regular products. An incentive program allowing tax deductions or accelerated depreciation can encourage the introduction of energy-efficient equipment.⁴⁷ As more efficient equipment comes into use, energy subsidies can then gradually be removed without increasing the average customer's bill. This is critical, as many developing nations' citizens will not switch to energy-efficient products if it means an immediate increase in the cost of energy.

Second, the donor ODA policymakers must work with the recipient nation's government, utilities and non-governmental organizations (NGOs) to encourage the use of integrated least-cost energy planning.⁴⁸ The tools necessary for least-cost planning include the development of a data collection program to determine which areas of the developing nation's economy would benefit most from efficiency gains,⁴⁹ and the creation of

⁴² MIKESSELL & WILLIAMS, *supra* note 39, at 78.

⁴³ *Id.* at 77. Areas surrounding the dams can experience outbreaks of malaria, dysentery, hepatitis and sleeping sickness.

⁴⁴ See Lenssen, *supra* note 28, at 116.

⁴⁵ *Id.*

⁴⁶ Information and Public Affairs Division, External Affairs Department, World Bank, World Bank Information Briefs #H.03-6-92, Energy Efficiency (1992).

⁴⁷ See GELLER, *supra* note 35, at 61.

⁴⁸ See Lenssen, *supra* note 28, at 118.

⁴⁹ GELLER, *supra* note 35, at 43.

general energy conservation legislation, equipment and appliance electricity use standards and heating requirements for local building codes.⁵⁰ Some developing nations are already benefiting from a national program of integrated resource planning.⁵¹

2. *The Benefits of an Energy Efficiency Program*

In an advanced developing nation, typically about 60 percent of electricity is consumed by industry, with the remainder of the electricity use divided between the commercial, agricultural and residential segments of the population.⁵² The typical factory in the developing world is far less energy-efficient than a comparable factory in the developed world.⁵³ Within the industrial segment, the majority of the electricity is used by motors,⁵⁴ so an energy efficiency program would concentrate on methods to improve motor efficiency.⁵⁵

The agricultural sector can realize energy gains by increasing pump efficiency. Water pumping for irrigated agriculture is an activity ripe for a program of energy efficiency, as demonstrated by rural farmers in Gujarat, India, who achieved energy savings of up to 50 percent through simple pump improvements, at a cost of roughly \$0.01 per kilowatt-hour of saved electricity, which is much less than the cost of supplying that electricity.⁵⁶

Commercial, agricultural and residential sectors can also benefit from utilizing efficient lighting. Energy-efficient lighting offers great promise in energy savings. In both the commercial and residential areas, compact fluorescent lamps are a basic tool to realizing energy savings, as the bulbs use 60-75 percent less power than conventional bulbs and last up to ten times as long.⁵⁷ This is one area where the ODA energy efficiency program should plan for incentives, such as assistance in defraying the higher investment cost of this type of lighting. Due to the huge savings potential of alternative

⁵⁰ See Geller, *supra* note 32, at 474-79.

⁵¹ See Lenssen, *supra* note 28, at 117.

⁵² Geller, *supra* note 32, at 471.

⁵³ See Lenssen, *supra* note 28, at 107.

⁵⁴ For example, in India, electric motors consume 73 percent of all industrial electricity used. RAO ET AL., *supra* note 29, at 5.

⁵⁵ Three ways exist to increase the energy efficiency of motors. First, more electrically efficient motors may be purchased. Second, motor speed controls can be fitted to existing motors, thereby allowing them to use the power they consume more efficiently. Finally, power factor controls can be installed. The industrial sector can also benefit from many of the products that benefit the commercial, agricultural and residential sectors. Geller, *supra* note 32, at 472.

⁵⁶ RAO ET AL., *supra* note 114, at 11.

⁵⁷ GELLER, *supra* note 35, at 18.

florescent lighting, any energy efficiency program should include bulb replacement as a principle goal.

Another area in which every economic segment can participate in is the purchase and utilization of more energy-efficient appliances. Even though energy efficiencies can be effected in any appliance that runs on electricity, important appliances to consider for a program of energy efficiency in developing nations include air conditioners, refrigerators and water heaters.⁵⁸ Various improvements can significantly reduce the amount of electricity used in air conditioners.⁵⁹ Most water heaters in developing nations utilize electric resistance coil heaters in their heater mechanisms; small heat pump water heaters could cut this energy use in half.⁶⁰

Energy efficiency programs require careful study of existing energy use to determine where investment of programs and products should be made. Consequently, the donor and recipient nation must work closely together to design and implement a program of energy efficiency. Energy efficiency programs demand more attention and follow-up by the donor nation, which may partially explain their scarcity among ODA project portfolios.

C. Japan's Sustainable Development Programs

While Japan's presentation at the Rio Conference announcing its commitment to sustainable development contained few specifics, and so might be subject to skepticism, nonetheless Japan had already begun developing several sustainable development programs prior to UNCED. In particular, at the London Summit in July of 1991, in addition to reasserting its dedication to the traditional development goals of poverty reduction and population growth control in third world nations, Japan announced the details of its new environmental ODA policy.⁶¹

1. Meeting Sustainable Development Criteria

The plan delivered at the London Summit called for Japan to transfer technology which promotes environmental protection and energy efficiency to developing nations in order to safeguard their environment while

⁵⁸ *Id.* at 18-28.

⁵⁹ *Id.* at 18-20.

⁶⁰ *Id.* at 28.

⁶¹ JAPANESE MINISTRY OF FOREIGN AFFAIRS, JAPAN'S ODA 1991 36 (1992).

allowing those nations to achieve rapid growth.⁶² The Japanese Ministry of International Trade and Industry (MITI) views the reform of recipient nations' energy systems as important to any program of sustainable development.⁶³ To accomplish this, MITI formulated specific programs to promote energy saving and to develop clean energy technologies,⁶⁴ including the training, in Japan, of 10,000 engineers from developing nations on environmental-related technology by the year 2001.⁶⁵

The new Japanese ODA plan addressed other important issues that can affect the overall quality of potential Japanese sustainable development ODA projects. The new policy statement strongly encourages the use of environmental impact statements as well as the creation of sectoral environmental guidelines to steer decisions on appropriate methods for the preparation, design and implementation of ODA projects.⁶⁶ To this end, both of the Japanese aid disbursement agencies, the Overseas Economic Cooperation Fund (OECF) and the Japanese International Cooperation Agency (JICA), have drafted comprehensive environmental assessment guidelines⁶⁷ and JICA's guidelines for specific types of projects are now available to its officials.⁶⁸

2. *Ascertaining Developing Nations' Interests*

Japan announced that it will consult with developing nations and request their input on ODA programs.⁶⁹ While the Japanese government has always stated that aid requests should originate with the recipient government, this policy has been extended to requests by smaller non-governmental groups. The Japanese government implemented the Small-Scale Grant Assistance program in 1989, from which non-government organizations (NGOs) and private voluntary organizations directly request small grants to be used for small scale projects.⁷⁰ In 1989, the program disbursed 92 grants with a value of 296 million yen to NGOs, private

⁶² *Id.*

⁶³ See MITI DOCUMENT, at 1-3 (Document available from the *Pacific Rim Law & Policy Journal* office).

⁶⁴ *Id.*

⁶⁵ Ai Nakajima, *Aid Offered to Clean Environment Abroad; Help for Soviets in the Works at MITI*, THE NIKKEI WEEKLY, July 27, 1991, at Economy, 3.

⁶⁶ JAPANESE MINISTRY OF FOREIGN AFFAIRS, *supra* note 61, at 37.

⁶⁷ *Id.* at 36.

⁶⁸ JAPAN INTERNATIONAL COOPERATIVE AGENCY (JICA); ENVIRONMENTAL GUIDELINES FOR DAM CONSTRUCTION PROJECTS (1990).

⁶⁹ JAPANESE MINISTRY OF FOREIGN AFFAIRS, *supra* note 61, at 37.

⁷⁰ *Id.* at 170.

voluntary organizations and other groups.⁷¹ The fact that Japan recognizes the necessity of developing nations' input is encouraging, and Japan's Small-Scale Grant Assistance program has given Japanese ODA officials experience in working with diverse groups in recipient nations.

3. *Mixing Sustainable Development Policy with Business*

Under the new plan, in order to transfer technology for environmental protection to developing nations, Japan will rely in part on the business organizations within Japan which are the repositories of knowledge about industrial technological processes.⁷² Ecological technology transfers will be a mix of ODA and exchanges between foreign nations and Japanese firms.⁷³ Both JICA and OECF directly support Japanese private sector activities in developing nations by providing loans and equity to firms participating in development activities.⁷⁴ For example, Mexico City, suffering from severe air pollution problems, received loans for a Sulfur Dioxide Emission Reduction Project.⁷⁵ Japanese firms gained valuable experience in sulfur dioxide and nitrogen oxide removal technologies in complying with Japan's tough domestic air pollution regulations and invested heavily in this area.⁷⁶ As Japanese firms produce advanced emission reduction equipment,⁷⁷ it is practical for them to have a role in providing the know-how necessary to promote environmental protection and energy efficiency programs.

MITI has been the greatest advocate of promoting Japanese business interests within a program of a sustainable development. In its 33rd annual White Paper on Japanese economic cooperation, the agency noted the positive role the Japanese private sector could play through technology

⁷¹ *Id.*

⁷² *Id.* at 39.

⁷³ *Id.* Japan reiterated this position at the Rio Conference. Sadaaki Numata, a Japanese government official, stressed Japan was eager to transfer environmentally oriented technology, by "voluntarily giving technology through the dispatching of our experts . . . , but at the same time, a great deal of gas emission reduction technology and energy saving technology is in the hands of the private sector and we need to think about ways to manage the flow of that technology so it benefits both sides. Anne Harrison, *Japan Set for Environmental Technology Transfers to Third World*, UNITED PRESS INTERNATIONAL, June 3, 1992, at International.

⁷⁴ JAPANESE MINISTRY OF FOREIGN AFFAIRS, *supra* note 61, at 39.

⁷⁵ Edmund Klamann, *Aid Machine Struggles With Ecology Issues*, JAPAN ECONOMIC REVIEW, June 30, 1990, at 1.

⁷⁶ Nicholas Platt Jr., *Japan Exploiting Multi-Billion Dollar "Green" Goods Market*, THE REUTERS LIBRARY REPORT, June 8, 1992; Emma Chynoweth, *Japan Set to Export Environmental Technology*, CHEMICAL WEEK, Feb. 12, 1992, at 30.

⁷⁷ Harrison, *supra* note 73, at 3.

transfers related to environmental protection and energy efficiency.⁷⁸ Under its Green Aid Plan, the MITI proposes to utilize Japan's technical knowledge to improve recipient nations' energy and pollution situations.⁷⁹ The Green Aid Plan authorizes the establishment of model environmental protection training centers in developing nations in order to transfer Japanese technical know-how to recipient scientists and engineers.⁸⁰ Implicit in this plan is the expectation that recipient nations will utilize Japanese equipment once an energy and pollution plan is designed.

MITI and the Japanese business community clearly perceive that the new concern with environmental issues represents an attractive business opportunity.⁸¹ The greatest difficulty Japan may have in implementing a sustainable development ODA program is in funding sustainable development projects that are unprofitable but necessary to the recipient nation.

Although Japan has not yet released a detailed comprehensive sustainable development program, it seems committed to utilizing ODA projects to protect recipient nations' environments and make their energy systems more efficient. Japan's public commitment to sustainable development, small pilot projects, and adoption of environmental project evaluation standards, indicates that the new ODA policy is not merely a ruse to placate those who have criticized Japan's past ODA efforts. The question remains, however, as to whether Japan will be able to implement a sustainable development ODA policy some of whose tenants conflict with the interests of the Japanese business community.

⁷⁸ Hiroshi Yamazaki & Bill Clifford, *MITI Sharpens Asian Forces in Policy: White Paper on Economic Cooperation Stresses Regional Growth*, THE NIKKEI WEEKLY, June 20, 1992, at Economy, 4.

⁷⁹ The Green Aid Plan was proposed by MITI in August 1991. The value of Green Aid projects for Fiscal Year 1992 totals \$20,800,000. MITI document, *supra* note 63, at 1.

⁸⁰ *Id.* An example of the type of transferred technology is the simple desulfurization equipment being tested on oil refineries in Mexico. Louise de Rosario, *Green at the Edges; Japan Lifts Environment-Related Assistance*, FAR EASTERN ECONOMIC REVIEW, Mar. 12, 1992, at 39.

⁸¹ It would appear that it is the investment and business opportunities that attract Japanese firms to the transfer of environmental technology, as evidenced at Eco Brazil '92, the International Exhibition of Environmental Technology, which ran concurrently with the UNCED Conference in Rio de Janeiro. Numerous Japanese companies attended Eco Brazil '92, presenting exhibits on electric cars, hydrogen fuel systems and other energy related exhibits. Kathrine King, *Eco Industry Fair Promotes Business of Clean Earth*, THE REUTERS LIBRARY REPORT, May 27, 1992, available in LEXIS, Nexis Library, World file. This exhibition was a clear display of the commitment Japanese firms have made to compete in the global market for "green" technologies.

IV. INERTIA OF PAST PRACTICES INHIBITS JAPAN'S TRANSITION TO AN ODA POLICY OF SUSTAINABLE DEVELOPMENT

Any transition to a Japanese ODA program based on the tenets of sustainable development will be inhibited by the inertia of past Japanese ODA programs. In particular, the active participation of the Japanese business community in ODA implementation may prove problematic. Specifically, ODA energy programs that emphasize investments in energy efficiency, rather than energy generation, may be perceived as unprofitable and therefore unattractive to the Japanese business community. Demonstrating that the Japanese business community will profit from energy efficiency projects, as opposed to large scale energy generation projects, is of the utmost importance if a program of sustainable development is to be successfully adopted and implemented by the Japanese Aid Administration.

A. *Administrative Actors*

The Japanese Aid Administration consists of four primary actors: the Ministry of Finance (MOF), the Ministry of International Trade and Industry (MITI), the Ministry of Foreign Affairs (MOFA) and the Economic Planning Agency (EPA).⁸² ODA policy formation falls almost exclusively within the province of the Japanese Aid Administration, because no legislative guidelines for ODA policy currently exist.⁸³ Each Japanese Aid Administration member exercises much more influence in determining ODA policy than the agencies that actually disburse the aid.⁸⁴

Japanese aid is dispersed through two principle implementing bodies. The Overseas Economic Cooperation Fund (OECF) is responsible for disbursing loans to developing nations.⁸⁵ In 1989-1990, loans accounted for 56.5 percent of total Japanese ODA.⁸⁶ The Japanese International Cooperation Agency (JICA) disburses grant aid and technical assistance.⁸⁷ In 1989-

⁸² ROBERT ORR, *THE EMERGENCE OF JAPAN'S FOREIGN AID POWER* 31-45 (1990).

⁸³ *Id.* at 20. Oversight by the Japanese Diet is generally limited to approving the annual ODA budget; "[t]here exists no basic Diet enacted law establishing guidelines and rules for aid along the lines of the US Foreign Assistance Act".

⁸⁴ *Id.* at 45.

⁸⁵ Darin R. Greenen, Comment, *Japanese Foreign Aid: Suggested Legislation to Guide Administrative Distribution of Foreign Aid*, *Intramural Issue*, PAC. RIM L. & POL'Y J. 55, 65 (1991).

⁸⁶ JAPANESE MINISTRY OF FOREIGN AFFAIRS, *supra* note 61, at 16.

⁸⁷ Greenen, *supra* note 85, at 65.

1990, grant aid and technical assistance totaled 43.5 percent of total Japanese ODA.⁸⁸

The Ministry of Foreign Affairs holds the premier position within the Japanese Aid Administration for several reasons. First, all aid requests from recipient nations are forwarded to MOFA. Since the Japanese ODA program requires that all proposals for aid projects come directly from the recipient government, a practice known as "*yosei shugi*,"⁸⁹ MOFA has the advantage in evaluating all aid requests first. Second, MOFA also controls most of the grant aid disbursed through JICA.⁹⁰ Through its management of Japan's diplomatic missions abroad, many recipient nations already recognize MOFA as the overseas representative of the Japanese government.⁹¹ Because it is MOFA's responsibility to ensure Japan maintains a high profile as a generous ODA donor nation, large visible aid projects are more conducive to this goal than smaller energy efficiency projects.

The Ministry of International Trade and Industry is the greatest proponent of using Japan's ODA to foster the growth of Japan's commercial concerns.⁹² MITI routinely accepts development plans for potential projects abroad from Japan's huge trading companies (*Sogo Soshu*) although recipient nations in theory must officially submit their project requests to MOFA for approval.⁹³ MITI fervently supports "tied aid," in which grants or loans must be spent to purchase Japanese products or services.⁹⁴ MITI views any aid initiative that decreases the opportunity for Japanese firms to benefit from ODA spending with much skepticism.⁹⁵ From MITI's viewpoint, the funding of capital intensive large-scale projects is the best use of ODA since it provides lucrative contracts for Japan's business community.

The Ministry of Finance exercises a great deal of authority in ODA policy-making since it formally approves the ODA budget. MOF provides funds directly to multilateral development banks such as the World Bank

⁸⁸ JAPANESE MINISTRY OF FOREIGN AFFAIRS, *supra* note 61, at 16.

⁸⁹ "As the aid program was initiated in Southeast Asia, the *yosei shugi* approach was undertaken to allay fears of the recipients of an incipient reemergence of Japanese imperial policy." *Yosei shugi* is based on the idea that the Japanese ODA program will not infringe on the sovereignty of recipient nations by deciding what projects should be funded. ORR, *supra* note 82, at 60.

⁹⁰ See Richard Forrest, *Japanese Aid and the Environment*, THE ECOLOGIST, Jan./Feb. 1991, at 25.

⁹¹ See Greenen, *supra* note 85, at 64.

⁹² ORR, *supra* note 82, at 36.

⁹³ *Id.*

⁹⁴ *Id.*

⁹⁵ *Id.*

and the Asian Development Bank.⁹⁶ MOF and MOFA regularly clash over ODA project requests because MOF disfavors a high percentage of tied aid, due to the fact that tied aid increases Japan's foreign exchange surplus, which is already criticized as excessive.⁹⁷

The Economic Planning Agency is the only non-Ministry in the Japanese Aid Administration, and consequently it is the weakest. The EPA sometimes coordinates ODA planning in Japan⁹⁸ and officially monitors the Overseas Economic Cooperation Fund.⁹⁹ While it encourages increases in foreign assistance, the EPA advocates that aid be used for structural adjustment lending to developing nations.¹⁰⁰ Its sphere of influence in the ODA arena, however, is usually limited by MITI, MOF and MOFA.¹⁰¹ Although this agency would probably support smaller projects in a sustainable development program, its support alone would be insufficient to change the current large project orientation of Japanese ODA.

Each member of the Japanese Aid Administration has a different outlook regarding the purpose and optimal operation of the Japanese ODA program. Principally at the urging of MITI, Japan's ODA programs have emphasized energy generation projects as the principle means of providing energy resources to aid recipient nation economic development. These projects provide lucrative business opportunities for Japanese consulting, construction and trading companies. In addition, the Japanese Aid Administration provides loans to private Japanese businesses operating in the recipient nation.¹⁰² To the extent that a new ODA policy of sustainable development might undermine the promotion of Japanese business opportunities in recipient nations, change will be understandably difficult.

B. Past Participation of the Japanese Business Community

The participation of the donor nation's business community in promoting a program of sustainable development is widely accepted.¹⁰³ In many cases, only the private sector possess the ability to complete a specific

⁹⁶ Forrest, *supra* note 90, at 25.

⁹⁷ See ORR, *supra* note 82, at 33.

⁹⁸ *Id.* at 45.

⁹⁹ *Id.*

¹⁰⁰ Forrest, *supra* note 90, at 25. For a discussion of structural adjustment lending, see generally DAVID REED, STRUCTURAL ADJUSTMENT AND THE ENVIRONMENT (1992).

¹⁰¹ ORR, *supra* note 82, at 44.

¹⁰² Forrest, *supra* note 90, at 27.

¹⁰³ See generally, CHANGING COURSE, THE BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT 1992.

project. The danger exists, however, that the business community may attempt to influence the design of the ODA program to ensure that large scale, profitable projects are funded at the expense of projects more in keeping with a program of sustainable development. Because Japan's Aid Administration relies heavily on the Japanese business community to implement many ODA projects, concerns about project evaluation objectivity may be raised.

In the area of energy generation, Japan routinely funded huge multipurpose dams, power plants driven by fossil fuels, and gas pipelines.¹⁰⁴ Consequently, Japan was criticized for the environmental damage caused by its ODA projects.¹⁰⁵ Japan faces continuing criticism for designing projects aimed at ensuring the business future of Japanese companies instead of furthering the development of recipient nations' economies or the well-being of recipient nations' citizens.¹⁰⁶

A typical example of Japanese business involvement in an ODA project occurred in Sumatra, Indonesia, where the major Japanese consulting firm of Nippon Koei designed the Asahan hydroelectric project. In that project, the Japanese disbursement agency Overseas Economic Cooperation Fund (OECF) loaned over \$100 million, or two-thirds, of the funding for a hydroelectric dam and the associated transmission lines and roads.¹⁰⁷ Subsequently, much of the power from the dam was used to produce aluminum for Japanese-owned industries including Asahan Aluminum, the Japanese-Indonesian joint venture set up by the Indonesian government; five Japanese smelting firms and seven Japanese trading companies.¹⁰⁸ Similarly, many large ODA projects benefit a Japanese builder, a Japanese trading company, or Japanese investors.¹⁰⁹

Considering the amount of money involved in constructing large energy generation plants, the Japanese business sector's interest is not surprising. The most recent MOFA Annual Report lists projects funded through the OECF. In China, for fiscal year 1989, the Japanese ODA loan

¹⁰⁴ THE OVERSEAS ECONOMIC COOPERATION FUND, ANNUAL REPORT 1991 111 (1991).

¹⁰⁵ Forrest, *supra* note 90, at 31. The Japan International Cooperation Agency (JICA) funded the construction of a logging road on the island of Sarawak that led to the destruction of huge areas of tropical rainforest; JICA also contracted with the Japanese consulting firm IDCJ to help plan the Carajas Iron Ore Project in Brazilian Amazonia which triggered widespread river pollution and over-harvesting of rainforest trees to provide fuel for the smelting of iron ore. *Id.* at 27.

¹⁰⁶ *Id.*

¹⁰⁷ FORREST *supra* note 90, at 27.

¹⁰⁸ *Id.*

¹⁰⁹ See ORR, *supra* note 82 (1990).

for the Tianshengqiao Hydroelectric Power Project totaled \$133,576,388.¹¹⁰ In Indonesia, the Kotapanjang Hydroelectric Power and Associated Transmission Line Project received a \$86,805,555 OECF loan.¹¹¹ During 1990 and 1991, OECF granted loans for two multipurpose dams, six power plants, three transmission lines and distribution system projects.¹¹² Obviously, the contracts to design and construct ODA projects are lucrative and explain the Japanese business community's continued involvement in the design and implementation of the Japanese ODA program.

Thus, to the extent that adoption of a program of sustainable development requires a change from the large project orientation of past Japanese ODA programs, Japan's Aid Administration and business community may pose significant hurdles to the Japanese government's plan to adopt a policy of sustainable development.

C. *Japan's Adoption of an Energy Efficiency ODA Program*

1. *Japan's Experience in Energy Efficiency*

As a nation committed to becoming the world's most energy-efficient economy, Japan is uniquely positioned to transmit those lessons to the developing world through its foreign aid program. Japan as a country uses energy very efficiently: between 1979 and 1986, Japan cut its energy consumption by 20 percent.¹¹³ In doing so, Japan developed many of the same regulations and incentive programs that a developing nation would need to institute: energy efficiency standards for appliances, energy surveys for commercial facilities, and accelerated depreciation for energy-efficient investments.¹¹⁴ Japan has recognized the ongoing nature of this effort; now Japanese factories above a specified size must have a licensed energy engineer to create and monitor energy efficiency.¹¹⁵ Furthermore, MITI's latest energy plan (1990) targets energy efficiency: MITI aims to reduce government and industry energy use by 11.2 percent from what it would be in the year 2010, given current trends.¹¹⁶

¹¹⁰ JAPANESE MINISTRY OF FOREIGN AFFAIRS, *supra* note 61, at 189.

¹¹¹ *Id.* at 193.

¹¹² THE OVERSEAS ECONOMIC COOPERATION FUND, *supra* note 104, at 111.

¹¹³ ALAN MILLER & CURTIS MOORE, JAPAN AND THE GLOBAL ENVIRONMENT 24 (1991).

¹¹⁴ *Id.*

¹¹⁵ *Id.*

¹¹⁶ *Id.* at 29.

2. *Japan's Technological Capabilities*

Japan could promote a program of energy efficiency through its official ODA program because Japanese manufacturers produce many of the products vital to energy efficiency. Consumer appliances utilize high technology electronic and computer parts to regulate energy use. Japanese manufacturers are on the cutting edge in this field.¹¹⁷ In addition, Japanese motors and lighting products are commonly known to be among the most energy-efficient in the world. According to Russell Strum, program director of the Private Sector Initiatives Bureau of the International Institute for Energy Conservation, Panasonic is the leader in energy-efficient appliances and lighting fixtures.¹¹⁸ Sanyo produces the most energy-efficient refrigeration units while Toshiba leads the world in efficient industrial motors.¹¹⁹ Energy efficiency programs instituted in developing nations would benefit Japanese businesses by providing a ready market for energy-efficient products.

3. *The Japanese Aid Administration*

A program of Japanese ODA promoting energy efficiency should meet the separate interests of the actors who make up the Japanese Aid Administration. As few, if any, substantial energy efficiency programs are currently in place in recipient nations, MOFA has an opportunity to promote Japan as a leader in the sustainable development movement. By switching its focus from energy generation projects to energy efficiency projects, Japan can avoid foreign and domestic environmental groups branding Japan as an international environmental pariah. Energy efficiency programs should be attractive to MOF because energy efficiency projects effectively create power at a fraction of the cost needed to fund large energy generation projects such as dams or power plants. Although MOF may still regard ODA as a heavy expense with little return, energy efficiency programs cost less per kilowatt than energy generation programs and thus will have a smaller impact on Japan's balance of trade. MITI should support energy efficiency programs because the programs provide MITI's business constituency with potential markets for Japanese energy-efficient products.

¹¹⁷ Russell Strum, Program Director of the Private Sector Initiatives Bureau of the *International Institute for Energy Conservation*, Telephone Interview with author, Jan. 21, 1993.

¹¹⁸ *Id.*

¹¹⁹ *Id.*

V. IMPEDIMENTS TO JAPAN'S ADOPTION OF ENERGY EFFICIENCY

Merely adopting a new ODA policy does not ensure that it will be effectively carried out. Numerous potential barriers can prevent Japan's implementation of sustainable development assistance, including impediments within the very agencies administering the aid. Since bilateral development assistance agencies operate in an environment of pre-existing loyalties, missions and sources of support, any predictions about the success of a new policy must take these factors into account.

A. *Institutional Impediments to Changes in ODA Policy*

To this end, the following model of ODA agency evaluation, developed by John Horberry, is useful in determining the chances of successful adoption and implementation of new policies by bilateral aid agencies. It identifies pitfalls common to any donor nation attempting an ODA policy change. Japan's ability to adopt an ODA policy of sustainable development can be realistically evaluated in this context.

First, policy changes will only succeed if donor nations make the new policy a priority.¹²⁰ Second, a new policy can fail when the ODA agency has other interests or missions that override the new policy mandate.¹²¹ Third, new policies risk failure if the proponents of these programs are weak when compared to other actors with influential ties to the aid agency.¹²² Finally, successful implementation of a new policy requires that the recipient government also support the policy.¹²³

1. *No Priority Status*

Although Japan announced it would make sustainable development a priority, no clear policy statement explaining Japan's concept of sustainable development and the exact role the Japanese Aid Administration is to play in its implementation has been announced. This is a concern, since the Japanese Aid Administration's outlook towards sustainable development indicates that neither JICA, which is controlled predominantly by MOFA, nor the OECF, influenced primarily by MITI, will likely consider energy

¹²⁰ Horberry, *supra* note 21, at 844.

¹²¹ *Id.*

¹²² *Id.*

¹²³ *Id.* at 835.

efficiency a priority.¹²⁴ The OECF and JICA now have environmental guidelines that attempt to account for the environmental effects of specific projects.¹²⁵ Use of these guidelines could, if rigorously applied, favor energy conservation projects over more environmentally destructive energy generation projects. It is unclear, however, whether this preference will manifest itself in the project selection process. Since the guidelines are administratively created and not drafted by the Diet,¹²⁶ Japanese ODA administrators do not consider these guidelines mandatory law.¹²⁷

As the history of Japan ODA reflects the lack of an integrated national policy, a directive that the Japanese Aid Administration use a sustainable development policy in aid evaluation and program development may require legislation. Legislation has been a key element in forcing other donor nations' aid agencies to comply with new government policies.¹²⁸ While it may not be practical to expect the Diet to force compliance through legislation in an area it has traditionally ignored, the sweeping change Japan expects to make in its ODA policy would justify such an action.

2. *Conflicts with Existing ODA Programs*

The Japanese Aid Administration should view a new policy of encouraging energy efficiency projects as valuable because it will provide

¹²⁴ Mike Phillips of *International Institute for Energy Conservation* concerning his trip to Japan in 1991, Telephone Interview with author, Jan. 20, 1993. The role of Japan's ODA as leader in sustainable development programs and specifically end-use energy efficiency programs, was suggested to Japanese Aid Officials on several occasions, but their reaction was generally one of disinterest. ODA officials at MOF, MITI, the OECF and JICA did not appear hostile to the idea of end-use efficiency programs, but saw no particular reason to change the quality of Japan's aid to developing nations' energy sector which currently consists of large scale infrastructure projects like dams or fossil fuel driven power plants.

¹²⁵ E.g., JAPAN INTERNATIONAL COOPERATIVE AGENCY (JICA), *ENVIRONMENTAL GUIDELINES FOR DAM CONSTRUCTION PROJECTS* (1990).

¹²⁶ Richard A. Forrest, Eastern Asia Representative for the *U.S. National Wildlife Federation*, Private Conversation with author, Jan. 6, 1993.

¹²⁷ *Id.*

¹²⁸ The importance of legislation as a directive to aid agencies was evident in the case study of the United States Agency for International Development's (US AID) requirement to adopt new U.S. environmental policy. The enactment of the National Environmental Policy Act (NEPA) in 1970 required AID to adopt procedures for carrying out environmental assessments of its foreign aid projects. Despite this mandate and subsequent calls for AID to adopt NEPA standards, AID seemed unwilling to create the requisite regulations for the implementation of NEPA standards in its aid program. In response to this delay, several domestic environmental NGOs filed suit to force AID to comply with NEPA. Once this occurred, AID created environmental assessment programs, reformed its project review process, developed environmental expertise and appointed environmental officers. Without the NEPA legislation and the accountability it assigned to US AID, it is doubtful if the new environmental policy would have been implemented. Horberry, *supra* note 21, at 840-48.

new opportunities to expand its authority and increase its funding.¹²⁹ However, if this new policy is seen as requiring increased scrutiny for all existing ODA energy projects, the new policy may be resisted. A bilateral aid agency is generally accountable to numerous government and non-government groups and must constantly gauge whether a new policy will interfere with the agency's current projects. Due to the need for support from these diverse interests, aid agencies may adopt a new program but limit the actual implementation of that program.¹³⁰ A mere announcement by the Japanese government that it intends to alter its ODA policy is unlikely to motivate the Japanese Aid Administration to alter their current disbursement practices.

The change to a sustainable development ODA program, however, does not mean that developing nations no longer need energy generation facilities or that Japan will no longer fund them through ODA programs. It does mean that the true costs of energy generation projects must be ascertained before their costs are compared to those of energy efficiency projects. For those energy generation projects that are considered, an environmental impact statement should be completed that determines effects upon the environment and recommends mitigation methods that can be incorporated into the technical and economic feasibility studies of the project.¹³¹ As set forth above, adoption of integrated least-cost energy planning within a sustainable development ODA program will lead to careful considerations of whether to fund investments in energy efficiency projects, rather than energy generation projects. The Japanese Aid Administration may determine that this change in project evaluation will undermine its ability to carry out its traditional funding patterns. If this is the case, a sustainable development ODA policy may be adopted in name only.

3. *Weak Support Base*

a. *Lack of Domestic Support Groups*

Pragmatically, new policies have little chance of successful adoption and implementation when the proponents of those policies are weak compared to those actors who support the status quo.¹³² A program of sustainable development ODA highlights environmental protection and energy

¹²⁹ *Id.* at 839.

¹³⁰ *Id.* at 838-39.

¹³¹ MIKESSELL & WILLIAMS, *supra* note 39, at 47, 52-53.

¹³² *See* Horberry, *supra* note 21, at 834.

efficiency projects. The main supporter of environmental reform of Japanese foreign aid is the Environmental Agency.¹³³ The Environment Agency's low status within the ODA hierarchy hampers its effectiveness.¹³⁴ Japanese domestic supporters of energy efficiency programs are practically nonexistent,¹³⁵ as utilities are uninformed about integrated least-cost energy planning and no energy-efficiency NGO lobby as yet exists in Japan.¹³⁶

b. *Influential Opponents*

i. *The Sogo Sosha*

Government, NGO groups and private commercial firms who have benefited from past energy sector ODA funding would probably oppose energy efficiency programs. For these groups, the continued funding of large scale energy generation projects is a vested business interest. The most influential groups include the Japanese trading companies (*Sogo Sosha*), the Construction Ministry, and construction and consulting firms. These groups would oppose a new ODA program of funding energy efficiency projects if those projects replaced the large-scale capital intensive energy projects that have for many years proven extremely lucrative. These groups, particularly the *Sogo Sosha*, are powerful lobbies within the Japanese aid structure primarily because the small size of the Japanese aid bureaucracy has required that private companies play a role in Japan's implementation of its foreign aid program.¹³⁷ Although MOFA requires all requests for aid come from the recipient nation, in practice many recipient nations turn to the *Sogo Sosha* operating in their country for assistance.¹³⁸ The trading company will council the recipient nation on which type of projects will likely receive Japanese government approval.¹³⁹ Once the project is approved, the trading company assists in lining up equipment suppliers, which are often Japanese,¹⁴⁰ and advises the recipient nation what type of Japanese funding

133 Forrest, *supra* note 90, at 30.

134 *Id.*

135 Professor Alan S. Miller, Professor at *The Center for Global Change, University of Maryland*, Telephone Interview with author, Jan. 21, 1993.

136 *Id.*

137 ORR, *supra* note 82, at 59.

138 *Id.* at 60.

139 *Id.* at 61.

140 In the section of the OECF 1991 annual report on the OECF loans to foreign governments, the principle contractor's list includes practically every major Japanese trading company: Mitsubishi Corporation, Sumitomo Corporation, Mitui & Company, Marubeni Corporation and Nippon Koei. THE OVERSEAS ECONOMIC COOPERATION FUND, at 134-35.

to apply for to fund the project.¹⁴¹ While many of the same companies that supply parts for dams also produce energy efficiency products, these companies profit more from supplying equipment and services for dam projects than they would from supplying energy efficiency products.¹⁴²

ii. *The Construction Industry*

The construction industry and engineering consultants have also played a big role in implementing Japanese foreign aid programs in the past.¹⁴³ An energy program with a top priority of energy efficiency would undoubtedly concern the Japanese construction firms and the Construction Ministry, who represent their interests in foreign aid policy matters for the simple reason that energy efficiency programs do not involve constructing dams or power plants. MITI's concern with promoting large-scale infrastructure projects that directly benefit Japanese business interests may conflict with a program of promoting energy efficiency projects. In order to ensure successful implementation of energy efficiency projects, proponents of this new policy should present it as complementing, not replacing, Japan's existing efforts in energy sector ODA.

c. *Support from Japanese Business*

The support of Japanese business is crucial if any sustainable development project, including an energy efficiency program, is to be approved and funded by the Japanese Aid Administration. Japan's sustainable development agenda already takes the interests of Japanese business into considerable account; based on the government's pronouncements, the business sector will continue to assist Japan's aid agencies in implementing ODA projects.¹⁴⁴ Additionally, since Japan's definition of sustainable development, while not specifically stated, appears to encompass environmental restoration, environmental conservation, energy conservation and energy generation, the market potential exists for Japanese products and services as diverse as pollution mitigation equipment, environmental surveys, consulting work, energy-efficient motors, appliances, and, of course, dams and power plant construction.

¹⁴¹ ORR, *supra* note 82, at 61.

¹⁴² Professor John Haley of the University of Washington School of Law, conversation with author, Feb. 11, 1993.

¹⁴³ ORR, *supra* note 82, at 61-62.

¹⁴⁴ JAPANESE MINISTRY OF FOREIGN AFFAIRS, *supra* note 61, at 38-39.

Japanese business should also consider the international impact of the Japanese government's express commitment to pursue a sustainable development ODA policy. The Japanese government has significantly accommodated Japanese business by broadly defining its sustainable development program to the international community, but Japan is openly committed to this program and risks international criticism if it should fail to establish a recognizable sustainable development ODA policy. Japanese industry should consider the possible backlash from the international community if it should be identified as the reason Japan fails to keep its commitment. The Japanese business community should, therefore, support energy efficiency programs in a mix with other ODA projects and use this opportunity to expand into the newer markets opened by this ODA policy change.

4. *Low Interest From Recipient Nations*

In order for a new ODA policy to be successful, the recipient nation must make support the adoption of the new policy.¹⁴⁵ Under sustainable development theory, the developing nation's citizens participate in the process of designing and implementing development programs.¹⁴⁶ This practice recognizes that ODA assistance entails education as well as monetary support;¹⁴⁷ developing nations must be fully informed of the costs and benefits of alternative programs. This is also true for a developing nation formulating an energy policy which will heavily impact the country's future development.

Japan's current request-based approach to aid projects, however, may hamper developing nations' acceptance of sustainable development projects. For example, OECF relies on recipient nation environmental assessments; these are often less than rigorously conducted in order not to highlight the environmental costs in specific aid proposals.¹⁴⁸ While the historical justification of *yosei shugi* is understandable,¹⁴⁹ the fact is that in practice the *yosei shugi* policy has forced developing nations to turn to Japanese firms for project planning and implementation.¹⁵⁰ This practice has been very

¹⁴⁵ Horberry, *supra* note 21, at 835.

¹⁴⁶ See WALTER V. REID, JAMES N. BARNES & BRENT BLACKWELDER, ENVIRONMENTAL POLICY INSTITUTE & NATIONAL WILDLIFE FEDERATION, BANKROLLING SUCCESSSES: A PORTFOLIO OF SUSTAINABLE DEVELOPMENT PROJECTS 33 (1988).

¹⁴⁷ MITI DOCUMENT, *supra* note 63, at 2.

¹⁴⁸ See Klamann, *supra* note 75, at 1-3.

¹⁴⁹ ORR, *supra* note 82, at 60.

¹⁵⁰ *Id.*

lucrative for Japanese firms that have been able to become involved in the ODA process.¹⁵¹ Japanese firms involved in the ODA process may not advise recipient nations to request energy efficiency projects if these projects might replace traditional large-scale energy generation projects.

For energy efficiency programs to become a priority in recipient nations, those nations need to be educated about the choices available to them in the energy sector, select the project that is compatible with a policy of sustainable development and fully participate in the implementation process. Thus, the MOFA must ensure that the *yosei shugi* ODA policy truly meets the needs of the recipient nation attempting to institute a policy of sustainable development.

B. *Internal Constraints of Aid Agencies*

The specific goals, values, and attitudes of the aid implementing agencies must be considered when attempting to forecast the successful implementation of a new ODA program. As qualitative definitions of project success are difficult to formulate, total dollars spent on projects are often substituted as a reliable indicator of agency effectiveness.¹⁵² The success of foreign aid agencies, therefore, depends not on meeting the true development needs of a recipient nation, but on increasing the aid agency's budget by spending all appropriated funds.¹⁵³ Correspondingly, career advancement in bilateral aid agencies depends on the ability to spend money; new agency personnel succeed if they can move money through the pipeline.¹⁵⁴ Environmental programs which provide projects that increase agency funding are favored over environmental assessment programs that merely attempt to closely evaluate agency projects.¹⁵⁵ The challenge Japan faces is to select sustainable development projects that meet the internal needs of the agency and move away from an ODA program that overwhelmingly funds only large-scale infrastructure projects.

¹⁵¹ *Id.* at 61. C. Itoh, Japan's largest trading company (*Sogo Sosha*), receives contracts totaling between \$350 and \$400 million annually from Japanese ODA. *Id.*

¹⁵² JUDITH TENDLER, *INSIDE FOREIGN AID* 90-91 (1975).

¹⁵³ *Id.* at 88. "A donor organization's sense of mission, then, relates not necessarily to economic development but to the commitment of resources, the moving of money".

¹⁵⁴ *Id.*

¹⁵⁵ Horberry, *supra* note 21, at 829.

1. Personnel Shortages

The Japanese ODA implementing agencies face severe staff shortages. The OECF, which made loan commitments of \$7 billion dollars in 1990, had a total of 280 officers and staff.¹⁵⁶ By contrast, the Asian Development Bank, which made loan commitments of \$4 billion dollars in 1990, had a total of 1,668.¹⁵⁷ Although Japanese aid agencies have implemented new environmental guidelines, they now lack the personnel to carry out these project assessments.¹⁵⁸ An example of Japan's light staffing is in Indonesia, where although Japan provides 12 times as much aid than the U.S., Japan has only 20 field staff there—less than one-fifth of the US AID staff.¹⁵⁹ In terms of total aid disbursed, it is estimated that Japanese aid agency staff are responsible for 70 times as much aid money per person as US AID staff.¹⁶⁰

Energy efficiency programs compound this existing personnel shortage, because they are more difficult to administer than large-scale energy generation projects like dams and power plants. Electrical consumption surveys must be carried out, energy-efficient products must be promoted and marketed and legislation to promote energy efficiency must be crafted.¹⁶¹ In addition to the large amount of inspection time involved, overseeing thousands of separate energy efficiency programs would require attenuating agency control over the project to foreign groups. Thus, for an overworked aid agency field officer, a dam is a much better use of time and resources.

Given the amount of money Japan is willing to spend on ODA, combined with Japan's professed commitment to sustainable development, the answer to the shortage problem is rather obvious: spend the aid money to hire more field officers. Energy efficiency projects demand more personnel, but then most sustainable development projects will require more agents than past orthodox development projects. While the shortage problem is a setback to the immediate implementation of an energy efficiency program, it is hardly insurmountable.

156 OECF ANNUAL REPORT, *supra* note 104, at 135.

157 *Id.*

158 Klamann, *supra* note 75, at 1.

159 FORREST, *supra* note 90, at 29.

160 *Id.*

161 Geller, *supra* note 32, at 475-79.

2. *Staff Acceptance of New ODA Policy*

A more difficult problem may be the attitude of current field officers and aid personnel toward a new ODA policy. Implementing sustainable development programs requires different skills and different players from those needed to fund traditional power generation projects. Many aid agency career officers could find their knowledge of dam construction planning and other related skills unnecessary and their positions threatened, which would affect the number of sustainable development projects an aid agency would fund as well as the enthusiasm with which such projects would be implemented.

This is particularly applicable to energy efficiency projects because they require lengthy preparation and must be tailored to the circumstances of the locality in which they will operate. Switching priorities from power generation to energy efficiency would require aid agencies to hire or train people in the area of energy surveys, energy-efficiency assessments and energy-efficient product repair. While Japan produces many technically advanced energy efficiency products and has instituted successful energy efficiency programs in large firms,¹⁶² Japan has little experience in implementing a coordinated program of energy conservation among private customers.¹⁶³ Therefore, Japanese ODA officials would need to develop an overseas program of energy efficiency without having a complete domestic model to emulate, and would need to learn how to distribute and finance energy-efficient products.¹⁶⁴

Thus, the Japanese government must realize that unless current Japanese aid personnel are trained in sustainable development methodology, new programs will be stymied at a very basic level within the aid bureaucracy. Again, given the amount of money Japan has placed into ODA projects, diverting some of this funding to in-house training is a logical step considering the significant change in development policies Japan seeks to accomplish.

¹⁶² MILLER & MOORE, *supra* note 113, at 24-26.

¹⁶³ Professor Alan S. Miller, Professor at *The Center for Global Change, University of Maryland*, Telephone Interview with author, Jan. 21, 1993.

¹⁶⁴ Mike Phillips of *International Institute for Energy Conservation* concerning his trip to Japan in 1991, Telephone Interview with author, Jan. 20, 1993.

3. *Agency Survival Under Energy Efficiency Programs*

Ironically, energy efficiency programs face an additional barrier to aid agency acceptance in that a successful program could cost the agency future funding. Due to the savings potential in energy efficiency programs, developing nations may create surplus power for far less than it would cost to fund new energy generation projects.¹⁶⁵ While this result benefits the recipient nation and exemplifies a type of development that is truly sustainable, an aid agency that implemented a successful energy efficiency program could conceivably see its annual budget reduced, rather than increased. This would be contrary to the basic rule of aid agency survival;¹⁶⁶ the agencies disbursing Japan's ODA funds therefore have a strong interest in increasing rather than decreasing spending on energy sector ODA. Specifically, a Japanese ODA official's primary goal is to secure a greater share of the available money because ODA funding is the only part of the Japanese budget that increases annually.¹⁶⁷ Energy efficiency programs, and sustainable development projects, on the whole, are personnel-intensive and will require more environment aid personnel than Japan currently staffs,¹⁶⁸ so additional training of OECF and JICA staff will be required. Aid agencies should be able to apportion this additional cost among its sustainable development projects and protect its funding cushion.

Alternatively, the aid agencies and MOF, which approves the ODA budget, could redefine the criteria for project success. Sustainable development projects tend to be smaller and more targeted than orthodox development projects, making the total expense approach to measuring agency success even more attenuated than with orthodox development projects. Considering the mix of large generation projects and smaller, labor-intensive projects that will likely evolve under Japan's sustainable development policy, the number of projects funded and implemented with the recipient nations' approval could prove to be a valuable benchmark for measuring the success of projects according to sustainable development theory.

¹⁶⁵ Geller, *supra* note 32, at 471.

¹⁶⁶ See HORBERRY, *supra* note 21, at 824.

¹⁶⁷ FORREST, *supra* note 90, at 3.

¹⁶⁸ *Id.* at 30.

CONCLUSION

Many critics of the Japanese ODA bureaucracy maintain that, despite statements in support of sustainable development and the creation of Environmental Project Assessment Guidelines within OECF and JICA, Japan will be hard pressed to change the type of programs it funds.¹⁶⁹

Japan will continue to fund energy generation projects through its ODA disbursements. These projects, with the requisite pollution abatement devices, will still be necessary and desirable aid projects for some developing nations. While the Japanese Aid Administration should not forsake these larger projects, it must accept Japan's goal to introduce true sustainable development programs into its ODA program.

Japan could start small by implementing energy efficiency programs as an addition to, rather than as a replacement of, existing energy sector investments. A new policy that supplements rather than replaces an existing program could expand the ODA agencies program without upsetting existing agency missions and goals. In addition, this would assure that the powerful governmental and business groups that design and influence Japanese ODA policy would not impede the introduction of energy efficiency projects as another tool with which Japan can aid sustainable development.

¹⁶⁹ *Id.* at 32.