



Earth  
System  
Governance

## TOWARDS DECENTRALIZED GOVERNANCE STRUCTURES

*A Message from Fukushima to Rio+20*

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*This paper can be cited as:* Kanie, Norichika. 2011. Towards Decentralized Governance Structures: A Message from Fukushima to Rio+20. Published at [www.ieg.earthssystemgovernance.org](http://www.ieg.earthssystemgovernance.org). Lund and Tokyo: Earth System Governance Project.

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The original of this paper is written in Japanese, entitled “Chuoushuken teki kouzou kara Bunsan teki governance he: Fukushima no kyoukun kara Rio+20 heno hasshin he mukete”, to be published in Kankyou Keizai Seisaku. The author is grateful to Mr. Randel Helten for helping translation of the manuscript into English.

## 1. FUKUSHIMA RAISES QUESTIONS ABOUT JAPAN'S ENVIRONMENTAL AND ENERGY DIPLOMACY

The devastating earthquake that struck Japan on March 11, 2011 and the ensuing nuclear accident have inflicted enormous damage to Japan's society and economy. But in life, fortunes can sometimes turn. Something positive can emerge even from disaster. As "Fukushima" quickly joins "Chernobyl" as a word synonymous for "nuclear accident," for the next while, Japan's commentary on energy and environmental matters seems poised to attract the world's attention. A speech by Japan's Prime Minister Naoto Kan in May 2011 at the opening of the G8 Summit in France is a sign of this tendency. And in 2012, the world will witness the once-per-decade United Nations Conference on Sustainable Development (also referred to as Rio+20, being held twenty years after the Earth Summit in Rio de Janeiro). This time, though, the tone of the meeting will not likely be as deferential to the United States as in the past. The world needs a major change of course. In another sense, the world is watching to see if Japan can make a major change of course. The Conservatives in Japan, after being so quiet immediately after the nuclear accident this year, are beginning to make their voices be heard again. In the midst of all this, can Japan set a course for new environmental and energy policies, articulate them, and act as a leader? Japan's own competence is suddenly in the spotlight.

## 2. THE SHIFT FROM CENTRALIZED CONTROL TO SYSTEMS THAT ARE INDEPENDENT, DECENTRALIZED, AND COORDINATED

In the process of dealing with issues like radioactive waste, the Japanese have now debated whether or not nuclear power is a form of sustainable energy, but the mainstream view was that nuclear power is an important pillar of strategies against climate change, equivalent to renewable sources of energy like solar and wind power. There is a decisive difference, however, between nuclear and renewable energy. One depends on large-scale, centralized systems, while the other is based on small-scale, decentralized energy systems. It was relatively easy for Japan to adopt nuclear in the past, because modern energy supply systems based on fossil fuels belong to the former category.

In the face of the recent disaster, however, people are again noticing the benefits of decentralized systems. Generally speaking, a decentralized system is inherently more robust. This is because the overall system can continue to function even if part of the system is damaged: other parts of the system compensate for the damaged part. The Internet is often given as a typical example of this characteristic (BRAFMAN AND BECKSTROM 2006, AGGARWAL 1998).

These same approaches can be applied to the energy sector. Had a decentralized system been established and individual households functioning as small-scale power generators, one could say that, at the very least, the large power outages experienced in this disaster would not have occurred. For example, a combination of renewable energy sources such as photovoltaic, together with fuel cells and a “smart” electrical grid — with each dwelling acting as a small power generator — would be very robust and flexible. In a society that will be facing major carbon constraints in the future, if the aim is for low-risk, robust and flexible systems, there may be no other path than to create systems of this nature.

In fact, these kinds of systems are already appearing. With further technical development, the technology will spread and costs gradually decline, promoting their greater popularity. An important factor in all of this is the need for the enabling function of policy. “Energy farms” that are beginning to appear in Japan consist of fuel cells that can generate electricity at each household, and technically, can operate even during major power outages. We heard, however, that these could not be used during the recent power outages. One cannot but feel disconnected when a fully usable technology cannot be used simply because of human factors. Besides subsidies and grants, many ways are available for policy to support the technology.

### 3. FROM JAPANESE DOMESTIC POLICY TO ENVIRONMENTAL AND ENERGY DIPLOMACY

Decentralized power generation systems based on a combination of renewable energy, fuel cells, and smart grids could also be a driving force for Japan to promote a low-carbon revolution in Asia and the world. Many developing (or less developed) countries are politically unstable and even more vulnerable than developed countries to a multitude of threats, including terrorism and climate change. What these regions need is not high-risk nuclear power generation, but rather, decentralized systems that come with lower risks, are more robust, and can help them move along the path toward a low carbon society. A developing country could leapfrog over the high-carbon path taken by developed countries and still achieve its development targets. As a side effect, civil society could also be empowered by having “ownership” of energy. Meanwhile, Japan could support the standardization of its competitive technologies and promote expansion of its markets.

If Japan were to promote a bundle of strategic policies by linking policy relating to domestic affairs, foreign affairs, international cooperation, and development assistance, the recovery from the country’s recent disaster could also provide the impetus for development of an emerging norm. For a developed country that has promoted environmental diplomacy, this kind of approach is especially necessary now, in the face of limited available resources (KANIE 2001).

Another important point in the creation of an international model is that energy should not be seen as an isolated issue; a broader view is needed that considers environmental constraints, and even more specifically, carbon constraints. The world cannot mitigate climate change without addressing the issue of energy. It seems quite obvious that to usher in a low-carbon era, both issues must be addressed in an integrated way. Already some countries and regions are establishing institutional arrangements in which environmental authorities are responsible for energy issues.

There is already much evidence that authorities responsible for the environment are typically much weaker in government power structures, and even in cases where international consensus has been reached on an environmental topic, when officials return to their home country, implementation is often inadequate due to the lack of financial and human resources (BIERMANN 2001, DODDS 2000, DOWNIE AND LEVY 2000). In addition, because environmental issues permeate all sectors of society, multiple government ministries and agencies end up dealing with them, and from a variety of angles. Meanwhile, although government authorities responsible for the environment are expected to coordinate matters relating to environmental policy, they are not able to coordinate adequately, due to their lack of influence. This is the situation in many countries. To overcome these shortcomings, one authority could be given the power to deal with both environmental and energy issues. This structure could then ensure that the handling of energy issues is based upon recognition of environmental constraints, and meanwhile, also give greater influence to environmental authorities.

#### 4. RIO+20 AGENDA “INSTITUTIONAL FRAMEWORKS FOR SUSTAINABLE DEVELOPMENT” AS AN OPPORTUNITY

The limitations of bureaucratic structures responsible for the environment described above were already identified some time ago in debates about environmental governance at the international level (CHARNOVITZ 2002, ANSELL AND WEBER 1999, HAAS, KANIE AND MURPHY 2004). Since 1972, the international environmental regime has tried to treat the symptoms each time a problem arose, but with the finances, staffing, and authority attributed to it, the United Nations Environment Programme (UNEP) — though charged with a coordination function within the UN system — has been unable to coordinate affairs with the comprehensiveness needed for environmental policies, compared to international economic and social organizations. Currently, coordination is not being done adequately even *within* the environmental category. Coordination among the more than 200 multilateral environmental agreements (MEAs) is inadequate.

To deal with these issues, two major topics are being proposed for the Rio+20 conference in 2012: institutional framework for sustainable development, and the green economy. Discussions in the UN context about sustainable development are generally based on three pillars: the environment, sustainable social development, and

sustainable economic development. In the author's view, there are actually only two, not three pillars. The environment provides the foundations (constraints) for the two pillars, and if the foundation is not sound, the pillars will not stand solidly. At any rate, the environment is another crucial factor in the structure of sustainable development, and institutional frameworks relating to the environment are one of the important topics at the Rio+20 conference. The timing of this international conference presents an opportunity for Japan to let the world know about changes occurring in Japan, and an opportunity to help lead the world in a new direction.

Discussions about institutional frameworks could be described as having two levels. One level is a discussion about institutional design within the United Nations. Here, the issue is how to strengthen the environmental "pillar" within the United Nations' bureaucratic structure. Five reform proposals are currently being discussed in the Rio+20 preparatory processes:<sup>1</sup>

- Strengthen the United Nations Environment Programme (UNEP)
- Create a new organization for sustainable development
- Establish a specialized institution (e.g., a World Environment Organization)
- Reform the UN Economic and Social Council and the UN Commission on Sustainable Development
- Rationalize and enhance institutional reforms in the current structure

Even though Rio+20 will be held in less than a year (June 2012), there has been no rise in political interest in discussions about types of structural reforms, and unfortunately, no clear direction has yet emerged. In fact, the May 2011 meeting of the CSD ended without reaching consensus. Differences among countries are wide, and it is still difficult to see if any of the above reforms will prevail within the next year. In fact, there appears to be greater interest in discussions about the green economy than about institutional reforms.

To be on the leading edge of modern international institutional reforms, as is already happening in some countries, Japan could promote appropriate debate about institutional reforms in the context of contemporary issues. One proposal to create a breakthrough from the current situation would be to promote the institutional integration of environment and energy. The bias created by monopolistic control of Japan's energy policy being given to the Ministry of Economy, Trade and Industry (METI) — which became clearer for all to see during the Fukushima accident — has already been a target of criticism from international institutions like the International Atomic Energy Agency (IAEA). Institutional reforms are needed. Japan may now have a good opportunity to carry out institutional reforms toward the strengthening environmental management in Japan. If it can do this, Japan could also bring this kind of debate up to the world stage. Perhaps Japan can also organically link the two Rio+20 topics of green economy and institutional reforms, which until now have been considered separately, and promote international debate. By doing so, if the issues of environment and energy can be integrated, it may be possible to expand the discussion

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<sup>1</sup> UNEP/GCIEG.2/2/3

using the levers of social norms and institutional reforms. Promoting norms is an important function of international institutions.

## 5. INTERNATIONAL INSTITUTIONAL REFORMS AND JAPAN: REFORMS NEED TO BE COMPATIBLE

Another level in the debate about institutional frameworks is the issue of how to deal with overarching governance for sustainable development, over and above the framework of UN institutional reforms. Indeed, one could say that this issue is really the essence of the debate about institutional frameworks. If the whole debate focuses simply on the forms of structures we can already see, there is a risk of losing sight of the essential issues of governance at the core of contemporary society. The result may be to fall into superficial discussions about the technical aspects of institutional theory. Instead, what is really needed is a dynamic analysis of modern society, and the development of suitable next-generation structures based on that analysis. The world now needs institutional frameworks for a low carbon society in the twenty-first century. Can we get by based on institutional designs actually created more than 50 years ago? Or do we really need more fundamental change?

In discussions about Rio+20, one flow of debate focuses on these functional aspects of governance. But because political outcomes are difficult to see, discussions focussing on functions have attracted scant attention. The issue of globalization is one important characteristic of modern international politics. Whether perceived as good or bad, globalization is accelerating the international movement of people, goods, and money. A feature of international politics is the rise of influence of a diverse group of actors, and the power diffusion. Besides national governments, these days, international institutions, businesses, industries, NGOs, and scientists are networking internationally, and their political presence is growing. Not only is power at the national level being redistributed from superpowers to middle powers, smaller states, and emerging economies, but also the elements of the structure of power are transforming now in various ways, including a shift from “hard” power to “soft” power. As a result, as one could see with the Copenhagen COP15 conference on climate change and CSD 19, international structures are in the process of changing dramatically—so much so that conventional consensus-building systems have stopped functioning adequately. In contrast to this, we are witnessing an increase in policy formulation and implementation being conducted in partnership with non-state actors.

In other words, what is needed today in international governance for sustainable development is the creation of independent, decentralized systems. It is important to recognize the large difference between the meaning of “decentralized” and “fragmented.” Decentralization without the proper institutional design will lead to fragmentation, but if conducted properly, it will result in healthy competition between systems, and will facilitate institutional innovation. If decentralization is done right, transparency is enhanced and more channels of participation are available for a

diversity of actors (AGGARWAL 1998, OSTROM 2001, ANSELL AND WEBER 1999, HAAS, KANIE AND MURPHY 2004). To make these kinds of institutional designs succeed, there is a need to create the proper networks among the various decentralized actors, and it is also important to ensure that frameworks are flexible.

Japan's recent devastating earthquake and the Fukushima disaster shone a new light on the robustness and flexibility of decentralized systems. These lessons are helpful to illuminate the path toward a low carbon society. That path is a common one for many countries. This is a direction that includes the characteristics and trends of a globalizing world. Japan has suffered enormous damage. But just as with its reconstruction after the Second World War, Japan's recovery from this damage has now captured the world's attention, and this gives the country another chance to lead. A public opinion poll by the Japan Association for Public Opinion Research (June 11 and 12, 2011) asked people which forms of energy deserve attention now. Among respondents, 83.6 percent selected renewable energy, 7.2 percent nuclear power, and only 3.9 percent coal and petroleum. The contrast is striking. Decentralized but coordinated system designs are now supported by public opinion, offering the key to transform opportunity into reality.

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