Chapter 5
Public Participation in Decision-Making on Energy Policy: The Case of the "National Discussion" After the Fukushima Accident

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Abstract The summer of 2012 was a significant period for Japan's nuclear and energy policy in that, in response to the Fukushima nuclear accident, the government decided to undertake, what it termed, a "National Discussion" on energy policy. This was the first time that Deliberative Polling had been introduced in Japan on a policy level. This DP included 285 randomly selected participants from across Japan, asking them to deliberate on three nuclear energy policy options with the assistance of a panel of eight specially selected experts. The participants were asked to fill out a questionnaire at three points during the process, and their support for the three options (zero, 15, and 20–25 % nuclear dependency scenarios) were recorded and later analyzed. What was particularly interesting was the participants' desire not merely for information but also to challenge the panelists' individual viewpoints and to question the very framework of the discussion. Significant changes in the level of support for the three scenarios were observed, with approximately 50 % of the participants eventually choosing a shift away from nuclear dependency. An examination of the government's response to the National Discussion, including the DP, demonstrated that the results had a significant impact on nuclear policy, with the government explicitly stating that nuclear dependency should be phased out by the 2030s. A subsequent change in government led to the abandonment of this policy decision, but did not totally undermine the value of Japan's first attempt at combining a public participatory process with actual national policymaking in the field of science and technology.

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5.1 Introduction

June 29, 2012, became a significant date for Japan's nuclear and energy policy, when more than 150,000 people[1] demonstrated around the Prime Minister's office to protest against the restart of two reactors at the Oi Nuclear Power Station in Fukui Prefecture. After the triple meltdown in Fukushima, nuclear power stations that had subsequently been stopped for periodic inspection had not been restarted, and the Oi restart represented the first attempt to reboot nuclear power stations in the post-quake period. Despite the surge of growing protest, the government went ahead with the restart two days later, but the cries for the abandonment of nuclear power became louder and louder in the aftermath.[2]

This day also has a place in history because the government presented three policy options proposing different levels of nuclear energy dependency by 2030, including a zero-dependency (0 %) scenario, and called for, what it termed, a "National Discussion" on the matter. A few months after the Fukushima nuclear accident, the government stated that it would "[s]timulate national discussion overcoming the confrontation between the opposition to nuclear power generation and its promotion."[3] After nearly a year of consultation with various experts and stakeholders, the government finally came up with the policy choices on June 29. As a means of National Discussion, the government introduced Deliberative Polling (DP), in addition to conventional public comment processes and public hearings, to generate informed and deliberated opinion from the general public rather than from inner stakeholders or experts. This public participation process was historic in that it was virtually the first opportunity for the general public in Japan to become involved in a debate over nuclear power and energy choices.

At the time of the disaster, 54 nuclear power reactors were in operation in this country, and the government had, in its 2010 Basic Energy Plan, just decided to construct at least 14 new reactors by 2030 as nuclear energy was regarded as the "backbone" of an energy policy that could best meet the simultaneous needs for energy security, environmental protection (reduction of CO_2), and economic efficiency. In addition, nuclear policy in Japan had long been characterized by a top-down, authoritarian decision-making process. The utilization of nuclear power had been consistently promoted as national policy even after a series of accidents in the 1990s and 2000s had undermined public trust in nuclear energy. The political, economic, and societal contexts that had preserved such a static nuclear policy are

[1] The organizers announced that 150,000–180,000 people participated on that day while the Tokyo Metropolitan Police estimated the crowd at about 17,000 people. (The Asahi Shimbun, June 30, 2012.)

[2] Hasegawa (2014) provides an overview of Japanese civil society's reaction to the Fukushima accident, including the demonstrations around the Prime Minister's office (so-called "Kantei Demonstrations").

[3] "Interim Compilation of Discussion Points for the Formulation of 'Innovative Strategy for Energy and the Environment'" (July 29, 2011, The Energy and Environment Council).

worthy of inquiry in terms of political science, sociology, and STS, and previous studies have focused on this situation (Honda 2005; Yoshioka 2011).

Instead of a thorough examination of the historical background, this chapter is devoted to the process by which the National Discussion on energy choices was advanced in an unprecedented manner after the Fukushima accident, with a particular focus on the Deliberative Polling on Energy and Environmental Policy Options (hereafter referred to as the Energy DP or simply the DP).[4]

5.2 Background to the National Discussion

5.2.1 Japanese Nuclear Policy and Public Participation

Nuclear policy in Japan prior to the Fukushima accident had been characterized by its "dual organizational structure" (Yoshioka 2011), which consisted of a coalition between the electricity industry and the former Ministry of International Trade and Industry (MITI) on one hand, and the former Science and Technology Agency (STA) on the other. The industry-MITI coalition mainly presided over the commercial use of nuclear power, with the STA controlling all other matters, particularly research and development projects. Throughout its history, there had been no role for public participation in nuclear policy, with the governmental and industrial elites dominating decision-making and excluding critical experts and stakeholders from a number of advisory committees. Nuclear policy had gone completely unchallenged in the Diet as well.

In the 1990s, however, due to repeated nuclear incidents and scandals, including the sodium leak at the Monju fast-breeder reactor (1995) and the Tokai-mura JCO nuclear accident (1999), some signs of democratization were observed in the nuclear policy. One such move on the part of the government was the Round-Table Conference on Nuclear Power Policy, which the Atomic Energy Commission set up after the Monju accident in the spring of 1996, "to seek the views of all levels and

[4] Regarding the DP and the National Discussion on Energy and Environmental Policy Options, several studies have already been published in Japanese. Sone et al. (2013), Yagishita (2014), and Yanase (2013) are detailed reports of the entire process by the DP organizers themselves, who are also researchers in deliberative democracy. Kobayashi (2012) and Yagi (2013) are personal reviews by members of the Independent Review Committee of the DP, and they point out a number of achievements as well as problems of the DP and the National Discussion process. Sugawara (2013), admitting the significance of the Energy DP, examines the DP process and results from the viewpoint of public opinion research, and he points out several problems, particularly in regard to the representativeness of the participants. Onai (2014) examines the National Discussion as an example of introducing the idea of deliberative democracy to nuclear politics, and criticizes the government for having so quickly abandoned the outcomes of the National Discussion after the regime change in 2012.

sectors of society in Japan, and to incorporate their diverse opinions as part of future nuclear energy policy."[5] The Round-Table continued for about four years until 2000 in different forms, during which time 23 meetings were held. The conference invited participation from various stakeholders, including those researchers and activists who were critical of nuclear energy, and provided a stage for discussions between pro- and anti-nuclear panelists. However, the sponsor of the Round-Table, the Atomic Energy Commission, declined to give details on how the discussions and subsequent results would be reflected in nuclear policy, and the participants' proposals were mostly ignored, particularly those advocating a moratorium on nuclear power (Onai 2007, pp. 83–89).

Another major occurrence during this period was a spate of regional protests against the national nuclear policy. It was in this context that the residents of Maki-town in Niigata Prefecture initiated a local referendum on the construction of a nuclear power plant in 1996. People in Maki held the referendum to decide for themselves whether they should approve the construction of a nuclear power station by the Tohoku Electric Power Company. The residents had a number of chances to discuss and consider the use of nuclear energy before they cast their ballots; thus, the local referendum can be said to have provided the residents with a chance to deliberate as well as participate (Onai 2007, pp. 89–94).

As a result of the referendum and the following decisions made by the municipal government, the Tohoku Electric Power Company was finally forced to abandon the construction of the nuclear power plant. Although the referendum in Maki-town was an unprecedented event in the history of nuclear policy in Japan, it did no more than stop the construction of one nuclear power plant, and the organizational structure supporting the nuclear policy was preserved.

The government was unsympathetic toward fundamental reform of the nuclear policy even after the Democratic Party of Japan (DPJ)-led coalition took power in 2009. The DPJ coalition government emphasized a politician-led initiative as well as the breakdown of bureaucratic domination in various fields, but the DPJ was more bullish with regard to the promotion of nuclear development and utilization than the former LDP (Liberal Democratic Party) administrations had been. It has been argued that DPJ's aggressive promotion of nuclear energy can be accounted for by its reliance to some extent on the Federation of Electric Power Related Industry Workers' Unions, which has been an important vote-getting machine for a certain faction within the DPJ (Yoshioka 2011, p. 355). It was only after the Fukushima accident that the government really buckled down to nuclear policy reform and public participation.

[5] The website of the Atomic Energy Commission. http://www.aec.go.jp/jicst/NC/iinkai/entaku/index_e.htm. Accessed on 20 Aug 2014.

5.2.2 From the Fukushima Accident to the National Discussion

In June 2011, three months after the Great East Japan Earthquake, the then Naoto Kan-led administration[6] established the Energy and Environment Council from among his cabinet ministers. According to its mission statement, the Council was supposed "to work together across the Prime Minister's office and ministries to institute an 'Innovative Strategy for Energy and the Environment,' comprising short-, medium-, and long-term strategies, which can remedy the disproportionate and vulnerable current energy system and respond to requests for energy safety, security, efficiency, and environmental protection." Immediately after the Council's establishment, the Prime Minister announced his policy to reduce dependence on nuclear energy and withdraw it completely at some point in the future. On July 29, two weeks after this statement, the Energy and Environment Council declared, as a part of cabinet policy, "The government would lessen the dependence on nuclear energy" and "develop a national discussion on 'how to materialize scenarios for reducing nuclear energy.'" In this way, the search for a method of reducing Japan's dependence on nuclear energy through "National Discussion" became one of the government's basic principles.

To provide a springboard for the National Discussion, the government spent nearly one year in preparing policy choices that provided the public with different alternatives for the country's reduction in nuclear power dependence (Miyagi 2014, pp. 6–17). To start with, the cabinet set up an expert committee to verify the actual costs of different power generation methods and, after two months' intensive discussion, the committee concluded, in its final report published in December 2011, that (1) nuclear power was at least 1.5 times more expensive than it had been claimed when allowing for political and accident risks, and that (2) thermal power would remain competitive for the time being despite the rising cost of fossil fuels. The report also emphasized that (3) renewable energy, such as solar and wind, could be achieved at prices as low as those of conventional sources of electricity if the economic and policy conditions were right. In summary, the report revealed that nuclear energy was not significantly cheaper than other methods of power generation, and other sources, including renewable energy, were sufficiently competitive to become major components of the country's energy composition.

On the premise of these estimated costs, the government next began drafting a set of policy alternatives related to the degree to which the country should depend on nuclear and other sources of energy for electricity. The proposed alternatives

[6] Kan was forced to resign in September 2011 due to the strong disapprovals of his post-quake recovery measures, which were indicated not only by the opposition parties and the public but also by some factions in the ruling party. Yoshihiko Noda took over and stayed in office until December 2012, when the DPJ suffered a crushing defeat in the general election.

Table 5.1 Three scenarios for 2030 (Based on "Options for Energy and the Environment," issued by the Energy and Environment Council on June 29, 2012)

	Share of nuclear energy (%)[a]	Share of renewable energy (%)[a]	Share of fossil fuels (%)[a]	Electricity generated (trillion KWH)	Greenhouse gas emissions (vs. 1990) (%)
Zero scenario	0	35	65	Approx. 1	−23
15 scenario	15	30	55	Approx. 1	−23
20–25 scenario	20–25	30–25	50	Approx. 1	−25
Pre-quake figures (2010)	26	10	63	1.1	−0.3

[a] Shares represent the proportion of electric energy generation only

involved not only energy composition but also nuclear fuel recycling and global warming prevention. To cover this wide range of issues, details were discussed in three advisory panels in different ministries: the Advisory Committee for Natural Resources and Energy in the Ministry of Economy, Trade and Industry (METI), the Atomic Energy Commission in the Cabinet Office, and the Central Environment Council in the Ministry of the Environment.

Although the cabinet at first intended to compile reports from these advisory committees and finalize the draft policy options in the spring of 2012, discussion in each committee dragged on until early summer. On receiving the final reports from the three advisory committees, the Energy and Environment Council drew up and presented the policy alternatives in a paper titled "Options for Energy and the Environment" on June 29, 2012. The alternatives consisted of three options with different degrees of nuclear power dependency, 0, 15, and 20–25 % (hereafter referred to as the zero, 15, and 20–25 scenarios), to be implemented by 2030, as shown in Table 5.1.

At the same time, the government advanced its plan on how to generate public discussion on these choices. In addition to conventional methods, such as public hearings and public comment, the government introduced DP for the first time in its official decision-making with the aim of better understanding deliberated public opinion.[7]

[7] A group of researchers (including the author), mainly those specializing in STS and participatory practices in science and technology, issued an emergency statement on the same day (June 29), warning that the government's DP plan did not allow sufficient time for preparation and lacked the independent steering body, both of which are necessary for the fair and proper organization of a mini-public. The researchers also insisted that the government clearly indicate how it would treat the results from the DP. Although the lack of time was unavoidable, the recommendation can in part be seen to have resulted in the establishment of the DP Steering Committee as well as the disclosure of the review process to be implemented after the National Discussion.

5.2.3 The Introduction of Deliberative Polling (DP)

DP is a participatory and deliberative method developed by James Fishkin, a US political scientist, which has been used in a number of countries around the world (Fishkin 2009). At the time of its introduction by the DPJ coalition government in 2012, there had already been five applications of DP in Japan, all of which had been initiated by various groups of social scientists as experimental projects. This time, the government officially sponsored DP for the first time, but it entrusted a specially organized steering committee with its implementation. The steering committee was composed of a handful of researchers led by Professor Yasunori Sone from Keio University, who is one of the leading experts in the method. Like other researchers in this area, he had been waiting his chance to put DP into practice while government officials searched for novel methods with which to realize authentic "National Discussion" on energy choices. The interests of the researchers and the government, therefore, can be seen to have coincided in this instance.

Generally speaking, DP consists of the five steps shown in Fig. 5.1. First, the organizer conducts a conventional opinion poll, asking several thousand randomly sampled participants to answer a questionnaire on a particular topic. This first questionnaire is usually referred to as T1 (T stands for "time"). In the Energy DP, T1 was conducted by means of a random digit dial (RDD) telephone survey, and nearly 6,849 people responded to 24 questions on energy choices. At the same time, as a second step, the organizer explains to the respondents that a deliberative forum

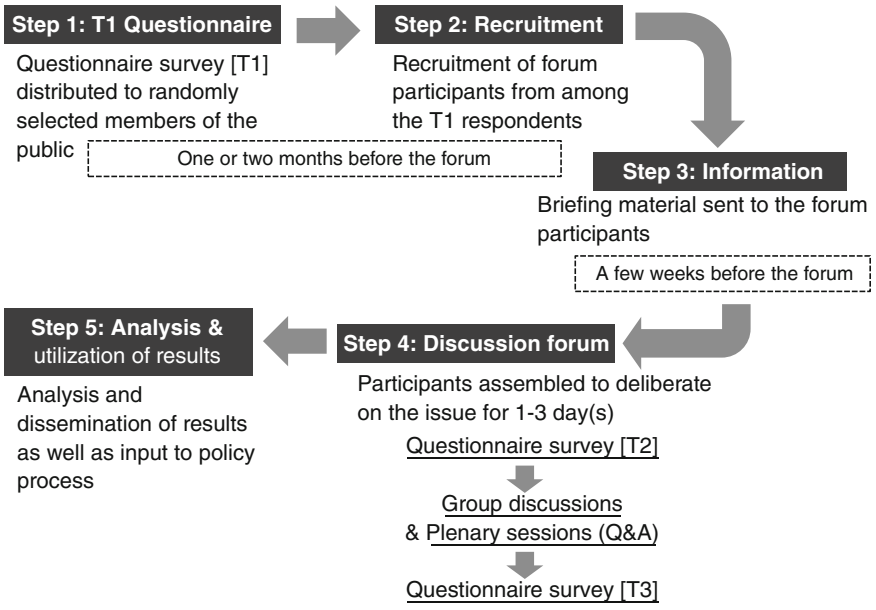

Fig. 5.1 DP procedure

on the same topic will follow and invites them to participate in the forum. In principle, the organizer pays the travel expenses of and honorariums to the participants. The idea is to gather various people (in terms of gender, age, region, ethnicity, education, occupation, religion, etc.) to create a microcosm of the society. It is desirable in most cases to recruit several hundred people, and in the Energy DP, 285 out of the 6,849 T1 respondents agreed to participate in the forum. Third, the participants receive briefing materials, usually a booklet, on the discussion topic from the organizer, and they are asked to read the materials to prepare for the forum discussion.[8]

Then, as the fourth step, the discussion forum is held. The forum lasts for one to three days. At the beginning of the forum, the participants again answer a questionnaire (referred to as T2) that includes the same set of questions as T1, and then the discussion starts. The participants take part in discussions in groups of fifteen, and they also have a chance to ask questions of experts on the topic in plenary sessions. Group discussions are facilitated by moderators, who are trained to withhold their own opinions under all circumstances and to help ensure fair and effective discussion. At the end of the forum, the participants are asked to answer the same questionnaire once more (T3), the responses to which can be regarded as more informed and deliberated public opinion than those of T1 or T2. Previous experience with DPs has shown that there is often considerable change in the participants' attitudes toward the issues after deliberation (Fishkin 2009, p. 134). Finally, as the fifth step, the results of the three polls are analyzed and published to provide reference material for policymakers and encourage further discussion by society as a whole.

5.2.4 Mini-Publics: Advantages and Disadvantages

It is obvious that the National Discussion on energy choices after the Fukushima accident was epoch-making when viewed in the light of the history described above. First of all, it is important to note that policy options included complete withdrawal from nuclear power. In addition, the National Discussion was designed so that the informed and deliberated voices of randomly selected citizens could be heard, through DP, as well as those of self-selected citizens and appointed stakeholders.

When considering this latter point, it is worthwhile to contrast two conventional methods for encouraging or visualizing public opinion; (1) self-selected methods, such as public hearings and public comment, on one hand, and (2) opinion polls of randomly selected members of the public on the other. Self-selected participants

[8] The English translation of the Energy DP briefing material (DP Steering Committee 2012a), along with other related resources, is available at the website of the Center for Deliberative Democracy, Stanford University. (http://cdd.stanford.edu/polls/japan. Accessed 20 Aug 2014.)

often have a lot of information and a chance to deliberate and are expected to provide clear-cut opinions that are worth listening to. However, their views are sometimes regarded to be extreme and not representative of the general public. Participants in opinion polls, on the other hand, can be seen as a representative cross-section of the entire population, but most respondents are chosen incidentally and are not ready to give an informed and deliberated opinion. The representativeness of the opinion and the deliberativeness of the participants are incompatible in most cases.

One of the breakthroughs in overcoming this dilemma is mini-publics (Goodin and Dryzek 2006), in which participants are gathered to form a microcosm of the entire society (a mini-public) by random sampling or some other ways, and asked to deliberate on various issues with balanced information at hand. DP is a typical method for the creation of mini-publics, and there are a number of participatory methods that fall into this category, as shown in Table 5.2.

Another well-known method of creating mini-publics is the consensus conference model, originally designed for participatory technology assessment (pTA) by the Danish Board of Technology in the 1980s. Consensus conferences have since become a big hit and have been used around the world with relation to a number of topics, particularly GMOs (genetically modified organisms) (Blok 2007; Dryzek et al. 2009; Einsiedel et al. 2001; Nielsen et al. 2007; Powell and Kleinman 2008). In Japan, STS researchers introduced this method in the 1990s and have organized conferences on a number of topics, such as GMOs, gene therapy, ICT, and nanotechnologies, as action research projects on public participation in science and technology (Kobayashi 2004; Wakamatsu 2010).

Table 5.2 Typical mini-public methods [Data from Shinohara (Ed.) (2012)]

	Length (days)	Number of participants	Origin (year)	Features
Deliberative Polling	1–3	Approx. 150–300	USA (1988)	Random-sampled participants fill in the same questionnaire before and after deliberation
Consensus Conference	3–8	Approx. 15	Denmark (1987)	A pTA method. Participants themselves draft a consensus document
Planungszelle	4	100 or more	Germany (1973)	Thorough deliberation, voting, and proposal drafting in each cell (five groups of 5 people)
Citizens Jury	5	Approx. 20	USA (1974)	Jurors issue a verdict after deliberation based on the testimonies of witnesses
Citizen Deliberation Meeting	1–4	Several dozen	Japan (2005)	Adapted and modified from the Planungszelle. Used at the grassroots level around Japan

Smith (2009) assesses various democratic innovations, including mini-publics, using four explicitly democratic goods; namely inclusiveness, popular control, considered judgment, and transparency (Smith 2009, pp. 72–110). Evaluated against these four criteria, mini-publics are thought to excel particularly in inclusiveness and considered judgment. By using random sampling and quota selection, mini-publics can involve a diverse group of citizens, and they also provide the participants with opportunities to receive a wide range of relevant information from experts and briefing materials. The participants also have the opportunity to understand different viewpoints and opinions as expressed by fellow participants.

In contrast, Smith argues that mini-publics have a number of weaknesses in terms of popular control and transparency. First, the agenda and corresponding experts invited to provide information are selected by the organizers or sponsors, not by the participants themselves, and the selection processes are out of popular control in most cases. Second, facilitators tend to have a strong influence on the discussion in mini-publics, and popular control is undermined if facilitators dominate important decisions, such as who should speak, which topic should be selected, when the discussion should end, and so on. Third, the political impact of mini-publics is quite limited and far from transparent. In most cases, the results of mini-publics are not linked to policy decisions, and it is difficult for participants of a mini-public, as well as the general public, to clearly predict how the results will impact relevant policy decisions. Fourth, the mini-publics generally receive little publicity, and most people, except the participants of the mini-publics themselves, are unaware of their actions or results.

5.2.5 The Analytical Perspectives of This Study

The abovementioned problems are common to the various applications of consensus conferencing in Japan, and, more generally, these can be regarded as fundamental challenges to the implementation of public participation and deliberation practices on science and technology issues. It can be said that they provide a useful perspective for the analysis and evaluation of the Energy DP.

However, the second point, facilitation, is rarely problematic as far as DPs are concerned as the quality control of moderators is always emphasized when implementing DP, and the moderators have to participate in training programs so that they can act impartially and dedicate themselves to the support of fair and effective discussions. The poor publicity of mini-publics, the fourth point, does not seem to apply in this specific case, either, for the Energy DP was conducted under an intense media spotlight (Ogiwara 2014).

On the other hand, the first and third points remain crucial in this particular case and represent a basic vantage point from which to observe and analyze it.

In regard to the Smith's first point, the expert-led agenda-setting was problematic in the case of the Energy DP as the three policy options for the National Discussion were prepared without any public consultation. The one-year process undertaken to

prepare the options involved experts and stakeholders with different views on nuclear energy, and it appears reasonable in terms of process design that they should implement this process to narrow down the points at issue and draw up a limited number of viable options before opening up the discussion to the general public. The crucial point is whether there are any opportunities left in the public participation phase to challenge these preset agendas or policy options. Even if the agendas or options need to be provided as a starter, participants should not be limited to simply deliberating within the framework set by experts or stakeholders but should, instead, be allowed to question or challenge such a framework from within. To put it another way, the question here is whether the DP succeeded in providing substantial interaction between citizen participants and those experts who had hitherto played more significant roles in the decision-making process, and whether it was able to break away from token participation or a deficit-model in which experts dominate.

The other point, the impact of mini-publics on policy decision, has been among the most important issues in the implementation of such methods. This issue had been basically limited to the theoretical and hypothetical level, at least in Japan, particularly in regard to national policy decisions, as most mini-publics have been put into practice on an experimental basis or at a local level. In this sense, the DP on energy choices is exceptional in that it had a definite connection to the policy-making process. It, therefore, provides a valuable case study with which to examine how Japanese energy policy changed in reaction to the Fukushima accident as well as to assess the extent to which DP or mini-publics can influence policy decisions in the field of science and technology in more general terms.

The investigation of these two questions can also lead to an examination of several points at issue that have been the focus of STS research on public engagement to date. Previous research has demonstrated that dialogue in mini-publics represents the politics of public talk in which the 'public' is constructed, with a new form of deliberative and participatory governance contradicting the old one (Irwin 2006). As Felt and Fochler (2010) argued on the basis of empirical case studies of Austrian exercises, mini-publics frame certain roles and identities of the public at large while the participants sometimes try to resist and redefine such roles and identities. It has been observed that mini-public participants discover little connection to the wider political debate on the issues at hand and they tend to identify themselves as individual learners (Felt and Fochler 2010, pp. 234–235), and 'invited' participation, such as that of the Energy DP, tends to impose normative commitments on participants as to what is important and what is not (Wynne 2007). Further, in regard to the second point above, participatory practices provide mere promises of more democratic forms of science and technology governance instead of realizing a tangible effect on actual decision-making (Felt and Fochler 2010, pp. 235–236). How these existing challenges were met in the epoch-making attempt at an Energy DP are examined below.

5.3 Method

The Energy DP consisted of three questionnaire surveys, two group discussion sessions, and two plenary sessions (Q&A with invited experts). The results of the three questionnaires were tabulated, analyzed, and made fully available to the public by the DP organizer. The author used the data to gain an overview of the 'informed and deliberated' public opinion expressed through the DP.

At the same time, it is necessary to understand in more detail the nature of deliberation in the DP, particularly with regard to the research question of whether the DP provided participants with sufficient opportunities to challenge the preset framework and given policy options. To this end, it is desirable to have access to and analyze the records of the discussion. While the steering committee did not disclose the records of each group discussion, full video recordings of the two plenary sessions, approximately three hours in total, were made public through the official website[9] of the Energy DP. Based on these videos, the author transcribed the entire dialogue between the participants and experts, analyzed it qualitatively, and classified all 51 questions raised by the participants.

In addition, the author had a chance to observe the discussion forum on-site, being allowed to sit in on all the sessions including the group discussions.[10] The participants were divided into groups of fifteen so that 20 group discussions ran in parallel; thus, the author was compelled to select a few groups and listen to their discussions to confirm that they were being run appropriately. However, the author was able to gain full on-site access to the plenary sessions and later used field notes generated for analyzing the transcripts from the plenary sessions.

Apart from the analysis of the DP itself, it is necessary to answer how the DP results, together with those from the public comment process and public hearings, impacted the government's final decision. The government, on receiving the DP results, appointed an expert panel (the Review Panel on the National Discussion) for the specific purpose of reviewing the results of the National Discussion and deciding how best to apply them to the final decision with regard to the new energy strategy. The deliberations of this expert panel were completely public, with video recordings as well as handouts and minutes fully disclosed on the government's website.[11] This can be regarded as an exceptionally open and carefully thought-out example of the linking of public participation with the decision-making process. In view of the fact that the output from public participation in many other cases has been dealt with behind closed doors, the records of this Review Panel provide valuable data with which to consider the impact of mini-publics on policy

[9] http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/dp/index.html. Accessed on 20 Aug 2014.

[10] The author worked for the Independent Review Panel of the DP, chaired by Professor Tadashi Kobayashi (Osaka University), which was commissioned by the Steering Committee to review the DP process. The author was appointed as an investigator for the panel and allowed to accompany its members to observe the entire DP proceedings.

[11] http://www.cas.go.jp/jp/seisaku/npu/policy09/archive12.html. Accessed on 20 Aug 2014.

decisions. From this perspective, the author scrutinized the minutes of the Review Panel and its final report, and examined how the DP results, as well as other output from the National Discussion, impacted the final decision.

In addition to these two major data sets, the author referred to various published documents, including those issued by the government and the DP Steering Committee, the memoirs of former government officials, and newspaper articles, in order to grasp a better overall picture of the National Discussion.

5.4 Details of the DP Discussion

5.4.1 Program Outline of the Energy DP

On Saturday and Sunday, August 4–5, 285 participants turned out at Keio University in Tokyo for the DP discussion forum. The participants had been randomly selected from the entire country and volunteered to travel to Tokyo to engage in the two-day discussion.

The discussion forum of the Energy DP began with an opening plenary session on the afternoon of Saturday, August 4. In the plenary session, the participants received guidance and responded to the questionnaire on energy choices for 2030 (T2 questionnaire survey). The participants were next divided into 20 groups of fifteen (from Group A to Group T) and were set to discuss the first topic, "Deliberations on Energy and its Judgmental Standard" for 90 min. At the end of the group discussion, each group selected a question that they wanted to set before the invited experts. Next, the participants assembled for a plenary session, in which the invited experts answered the questions from the 20 groups. After that, the conference dinner was held in the cafeteria.

On the next day, August 5, the exact same format of group discussion and plenary sessions was applied to the second topic, "Deliberation on the Scenario for Options in 2030." All the discussions finished at around noon, and before breaking up, the participants answered the final questionnaire (T3).

Before taking a closer look at the Q&A sessions, it would be helpful to devote some space to a discussion of the selection process of the experts. In general, the comments from experts at mini-publics have a great influence on citizen participants, and the organizers consider carefully who to invite as expert panelists. For example, in consensus conferences, participants have a say in the selection of both the expert panelists and the questions to be answered by them. Although the organizer select the experts in DPs, it is still necessary to achieve some balance in the composition of expert panels. On socially controversial issues, such as nuclear and energy policy, expert opinions are also diverse and are often diametrically opposed. It is a taboo to invite only experts sharing a specific opinion.

Further, it is important to balance the fields of expertise represented by the expert panelists. Most of the topics discussed in mini-publics are too complex to be dealt with completely by one expert, with energy and environmental policy being a

typical example. Although covering all related areas is impossible, it is desirable to create an expert panel that can cover the major fields likely to be addressed by the questions from the participants. In the case of the Energy DP, it was necessary to invite not only experts on nuclear and renewable energy but also those with knowledge of the electricity systems, climate change prevention, the economy, and science and technology policy in general. However, there is usually very limited time for the Q&A sessions, and the discussion can become confused if there are too many experts. There are natural limits to how many experts can be accommodated in a mini-public, with four or five experts the maximum for a Q&A session (90–120 min in general).

Having met such conditions in creating an ideal list of prospective panelists, it is possible that some of them might decline the invitations due to scheduling or other problems. It is important to note that the experts who are present at each mini-public have been chosen in the face of a number of constraints. In the Energy DP, eight experts attended, four on Day One and another four on Day Two, and fielded questions from the participants.

Table 5.3 provides a list of the experts who attended the plenary sessions to answer the participants' questions. All of them had been deeply involved in the investigations into and establishment of countermeasures against the Fukushima

Table 5.3 Expert panelists invited to the Energy DP (Data from a DP discussion forum handout)

	Name	Title and affiliation[a]	Field of expertise
Day One (August 4)	OGIMOTO, Kazuhiko	Professor The University of Tokyo	Energy systems
	TAKAHASHI, Hiroshi	Research fellow Economic Research Center at Fujitsu Research Institute	Electricity and energy policy
	YAMAGUCHI, Akira	Professor Osaka University	Nuclear engineering; system safety engineering
	YOSHIOKA, Hitoshi	Executive vice president, professor Kyushu University	History of science and technology; science and technology policy
Day Two (August 5)	EDAHIRO, Junko	President Institute for Studies in Happiness, Economy and Society	Environment; communications
	SAKITA, Yuko	Journalist and environmental counselor	Sustainable community development
	TANAKA, Satoru	Professor The University of Tokyo	Nuclear engineering; nuclear waste management
	NISHIOKA, Shuzo	Research adviser Institute for Global Environmental Strategies	Environmental system analysis; global environmental policy

[a] The titles and affiliations are those at the time of the Energy DP

accident or had played a role in formulating the policy options for the National Discussion. As for the experts on Day One, Professor Yamaguchi of Osaka University specializes in nuclear power engineering and supports the continuation of nuclear power, while Professor Yoshioka of Kyushu University is a science historian who has studied the history of nuclear energy in Japan from an opposing perspective since the 1980s (Yoshioka 2011, p. 396). On the other hand, Professor Ogimoto of the University of Tokyo and Dr. Takahashi of the Fujitsu Research Institute were invited as experts distinguished for their knowledge of the energy and electricity systems as well as of renewable energy. In regard to nuclear energy, Prof. Ogimoto has argued that Japan should combine various electricity sources, including nuclear power, to realize economic efficiency and stability as well as safety, while Dr. Takahashi asserts that the reliance on nuclear energy has forced society to bear too great a burden in terms of both safety and the economy, arguing that it should be phased out in the future (Takahashi 2011, pp. 200–203).

The experts on Day Two all had key roles in the formulation of the three policy options, and they reflected the diverse opinions commonly held on nuclear energy. Ms. Edahiro, Ms. Sakita, and Professor Tanaka of the University of Tokyo were involved in the formulation of the three policy options as members of a branch committee in the Advisory Committee for Natural Resources and Energy, METI. Through committee discussions, it was obvious that Ms. Edahiro supports a zero nuclear energy option, whereas Ms. Sakita favors the 15 scenario, and Prof. Tanaka the 20–25 scenario. Dr. Nishioka of the Institute for Global Environmental Strategies was a member of the Global Environmental Committee of the Central Environment Council. He did not officially declare which option he favored, but he advocated the thorough utilization of renewable energy and energy conservation technology to realize a low-carbon society free of any dependence on nuclear energy (Nishioka 2011).

5.4.2 Q&A in the Plenary Sessions

Table 5.4 shows the participants' questions at the two plenary sessions classified by topic. Due to time constraints, each group was allowed to pose, in principle, only one question for each plenary session. In both plenary sessions, each group representative had a chance to ask a question that had been chosen at the end of the group discussion. The 20 groups were expected to ask one question each at the two plenary sessions, making a total of 40 questions. However, some of the questions actually consisted of two or three sub-questions,[12] and Table 5.4 counts all of them as separate questions, taking the total to 51 questions.

[12] For example, a question in the plenary session on Day One was presented as follows: "I'm sorry to trouble you with a similar question, but is there any prospect of the development of a renewable energy that is as efficient as nuclear energy? This is our question, and uh…. if we

Table 5.4 Classification of the questions raised by the DP participants[a]

		Technical questions	"In-depth" questions[b]		
			A	B	C
Nuclear power	Safety	2	3	–	–
	Cost and CO_2	2	2	–	–
	Back-end problems	2	2	–	–
	Restart of nuclear power stations	4	–	–	–
Renewable energy and energy conservation	Development and cost of renewable energy	9	–	–	–
	Energy conservation and CO_2 reduction	3	–	–	–
Electricity system and energy policy	Energy policy, nuclear energy and market economy	3	–	–	–
	Separation of generation and transmission	2	–	–	–
Scenarios	Zero nuclear option	2	–	3	1
	Process until 2030	4	–	–	–
	Other alternatives	–	–	–	7
Total		33	7	3	8

[a] Figures indicate the number of questions falling into each category
[b] The three types of "in-depth" questions are as follows
A: "Really?" questions about nuclear power
B: The feasibility of the zero scenario
C: The appropriateness of the three options

Q&A sessions in DPs and many other mini-publics are designed to provide participants with the opportunity to gain basic knowledge on the issues at hand. As shown in Table 5.4, two-thirds (33 questions) of the total questions asked the expert panelists for detailed technical information. In the Energy DP, the participants were provided with a 46-page briefing booklet that explained the background and details of the three policy options, and two-thirds (66.7 %) of the participants said they had read through it prior to the event. As is often the case with mini-publics, it was natural that the information from the booklet and subsequent discussion with fellow participants inspired the participants to ask questions aimed at obtaining further information about the subjects on the agenda.

At the same time, however, it is important to note that no less than one-third of the questions ("in-depth" questions in the table) went beyond such a basic role assignment in which lay participants ask for technical information and experts respond; in other words, the dynamic was not as simple as the experts teaching and

(Footnote 12 continued)
choose a zero nuclear option, the scenario says we need to increase the percentage of renewable energy from 10 to 30 %. What is the specific plan to realize this scenario?" (Group B).

the participants learning. The classification of the questions demonstrates that deeper interactions occurred on specific topics that formed the core of the discussion on national energy choice.

5.4.2.1 Day One: Questions About Nuclear Power

On Day One, the group discussion and subsequent plenary session were devoted to the topic of "Deliberations on Energy and its Judgmental Standard," which can be regarded as a prerequisite for discussing and selecting the best scenario for 2030. The corresponding chapter of the briefing booklet listed four perspectives as "fundamental criteria" (DP Steering Committee 2012a, pp. 14–18) for deliberation on energy and climate change issues; namely, safety, cost, stable supply, and prevention of global warming. The briefing material stated that these four criteria contradict each other, thereby presenting a "Quadrilemma" (DP Steering Committee 2012a, p. 19). The chapter then goes on to compare the strengths and weaknesses of nuclear energy, renewable energy, and fossil fuel energy, in light of the four criteria. Although it is desirable to phase out nuclear power from the viewpoint of safety, other sources have weaknesses in terms of cost and stability of supply (renewable energy) or prevention of global warming (fossil energy).

In the plenary session on Day One, nine out of the 20 groups asked in-depth questions regarding nuclear energy, ranging from requests for information on the safety and cost of nuclear power generation to inquiries on the disposal of high-level radioactive waste (HLW). Below are a few typical questions.

> We have heard that the Fukushima Daiichi Nuclear Power Station caused a severe accident due to the blackout caused by the tsunami, but did the earthquake motion really have no effect? (Group O)

> Are nuclear power stations in Japan really safe, especially in terms of technology and geographical conditions? Some of them are said to be on active faults … (Group N)
> Does the amount cited in the briefing booklet really represent the true cost of nuclear power generation? Does the amount include the cost for final disposal as well as cooling, decommissioning, and repair? (Group A)

> I would like to ask whether nuclear energy really promises zero CO_2 emissions. (Group H)

It is interesting to notice that, as if by common consent, all the questions quoted above contain the word "really" ("*honto ni*" in Japanese). Another question in the same plenary was phrased as follows: "I wonder if HLW will be securely disposed of. While there is no prospect of restarting operations at Monju [a fast-breeder reactor], how do you think HLW can be treated?" (Group I) On a superficial level, this question appears to be asking for technical details about waste disposal methods, but it should be understood as a question asking whether HLW can "really" be disposed of securely as it was preceded by a remark expressing concerns about the safety of HLW disposal.

This wave of "Really (*honto ni*)?" questions should make us consider what the DP participants were actually seeking. As the above question from Group A ("Does the amount cited in the briefing booklet really represent the true cost of nuclear power generation?") clearly shows, basic information itself was provided, and most of the participants had read it in advance. These "Really?" questions were nevertheless asked as a kind of challenge to official explanations provided by the government, electric power companies, and academics.

Concerning the cost of nuclear power generation, the briefing booklet clearly states, in the figure on cost comparisons, that nuclear energy costs "9.0 yen or more per 1KWH" (DP Steering Committee 2012a, p. 13). This unit price was quoted from the report issued by the expert committee on cost verification (Sect. 5.2.2).

Until the Fukushima accident, the official estimate of nuclear energy cost was considerably lower at "5.9 yen per 1 KWH." However, the estimation did not include policy costs, such as the research and development budget or subsidies for accepting nuclear facilities, as well as social costs including accident-related expenses. The cabinet committee included these policy and social costs, and worked out the new unit cost of "9.0 yen or more."

Further, the estimation of electricity costs in the booklet was accompanied by a note stating, "The total amount of damage caused by the (Fukushima) nuclear accident has not been fixed yet, and the cost for accident risk stated here is a lower limit and can increase depending on the fixed amount of damage." Thus, only nuclear energy costs have no upper limit in the estimation.

Based on this, it is little wonder that the participants were skeptical about the integrity of the cost estimations. The experts seated on the stage were familiar with the discussions surrounding the electricity cost estimation, and the participants tried to assess how reliable the new estimation was by asking the question quoted above.

Each expert was asked to answer a question within about 2 min. This question on the "real" cost of nuclear power generation was answered by Prof. Yamaguchi, Prof. Yoshioka, and Dr. Takahashi.

The moderator called on Prof. Yamaguchi to answer first, and he emphasized that this was the best possible estimate at the moment.

> This estimate reflects various fluctuations including the uncertainty of cost factors. It has already included decommissioning or other related expenses mentioned earlier, and it can be regarded as the most accurate estimate that can be obtained at present.

On the other hand, Prof. Yoshioka highlighted the uncertainty surrounding the estimate. He started his answer by stating that he had "worked as a *goyo-gakusha* of the Atomic Energy Commission for thirteen years and was a member of the committees to formulate both the 2000 and 2005 Frameworks for Nuclear Energy Policy." *Goyo-gakusha* is Japanese slang usually used to refer scornfully to a scholar who is under the government's thumb, a lap-dog advisor so to speak. It is true that Prof. Yoshioka used to be a member of the government's committee on Frameworks for Nuclear Energy Policy, but he maintained a critical stance on the government's policy, particularly with regard to the nuclear fuel cycle program.

In this sense, the word *goyo-gakusha* here should be regarded as ironic, and Prof. Yoshioka answered the question from his experience as a *goyo-gakusha*.

> This should be understood as an estimate premised on a perfect situation in which every step of each scenario perfectly progresses without any accident or breakdown. This is a comparison [between various energy sources] in such a sense, so we should not trust it. (Laughs) The estimate in 2005 eventually turned out wrong because there has been little or no reprocessing [of spent nuclear fuel]. So it is always better to take into account risk when we think about the future.

Prof. Yoshioka spoke calmly and slowly, without raising his voice, and his words "we should not trust it (the government's estimate)" brought laughter for the first time in the plenary session and seemed to ease the tension in the auditorium.

Following these contrasting comments, Dr. Takahashi answered the question about the reliability of the estimated cost of nuclear energy.

> When we discuss economic efficiency, the single most important factor is uncertainty. The cost of nuclear energy was initially estimated at about 5.9 yen/KWH, but this was later changed to 8.9 yen/KWH,[13] according to the government's latest estimate. However, decontamination and decommissioning will continue for years to come, so it is quite uncertain how much the final amount will be.

Although Dr. Takahashi didn't explicitly state, "We should not trust it," he emphasized the uncertainty of the estimate just as Prof. Yoshioka had. His answer seemed to be somewhere in between those of Prof. Yamaguchi and Prof. Yoshioka.

Prof. Yamaguchi admitted that the estimate had a certain degree of uncertainty, whereas Prof. Yoshioka didn't say that the estimate was completely unreasonable. They agreed with each other that the estimate involved some kind of uncertainty. However, their comments appeared contradictory: "the most accurate estimate that can be obtained at present" (Prof. Yamaguchi) on one hand, and "we should not trust it" (Prof. Yoshioka) on the other. Thus, the single question whether the amount cited in the briefing booklet "really" represented the true cost of nuclear power generation revealed not only the information needed to make an informed judgment but also exposed the positions held by the key experts who had played important roles in generating the information.

5.4.2.2 Day Two: Questions About the Three Scenarios

The discussion topic on Day Two was "Deliberation on the Scenario for Options in 2030." The participants again began with group discussion sessions, and each group came up with a question. The plenary session then started, with four different experts invited, as described in Sect. 5.4.1.

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[13] The cost verification committee estimated in the 2011 report that the cost of nuclear power was 8.9 yen/KWH or more. However, when the government recalculated this on the basis of the latest data for the presentation of the three options, it had increased by 0.1 yen to become 9.0 yen/KWH or more.

The participants again raised a number of in-depth questions that asked for something more than mere technical information, with such questions centering on two topics: (1) whether the zero nuclear energy scenario is possible, and (2) whether these three scenarios are appropriate from the beginning.

For the first topic, three groups raised questions about the possibility of implementing a zero nuclear energy scenario. For example:

> We would like to ask all the experts this question. Do you think the zero nuclear scenario is possible? And, what do you think Japanese society will be like when the zero scenario is realized? (Group A)

The question is clear and easy to understand, but it sounds a little strange when we consider the situation. The government presented the three policy options after a year of consultation with experts and stakeholders, and it was because the zero scenario was thought to be feasible and appropriate that it was included as one of the three options. The problem that must be now asked is why the participants questioned the feasibility of the zero scenario.

This demonstrates a structure similar to that observed on Day One in which some participants asked a number of "Really?" questions. The questions on Day Two should, in fact, be understood as follows: "There is a zero nuclear scenario in the briefing booklet, but we were wondering if it is *really* possible." However, there is a difference between this question and the "Really?" questions asked on Day One in that the zero scenario was not a focus of criticism or skepticism. A majority of the participants hoped that, in some way or another, the zero scenario would be a feasible solution, and wanted to ask the experts how realistic the zero scenario was. Here again, the real question was about the positions held by the experts.

If this is indeed the case, it might have been better for the participants to ask the experts directly which one of the options they thought the best. However, in DP and other mini-publics, it is basically the role of the participants to decide on policy alternatives, with the experts providing materials to assist their decision. Actually, the representative of another group (Group C) asked the same question, adding, "This might be a hard question to answer, but I would be happy to hear your answers," which shows that the participants were fully aware of this basic rule.[14] In summary, the question of whether the zero nuclear scenario is possible can be interpreted as a reflection of the participants' intention to maintain the initiative in the discussion as well as their desire to reveal the point of view of each of the experts.

The experts' answers revealed their individual ideas and principles regarding the utilization of nuclear energy. Ms. Edahiro clearly stated, "I think the zero scenario

[14] This observation is in agreement with the qualitative analysis of the group discussion records conducted by one of the DP organizers, Hironobu Uekihara. Based on his participant observation and analysis, Uekihara claimed that, in the group sessions on the morning of Day Two, more and more participants started to express their resolution to deliberate and decide on the energy choices for themselves, rather than depending on the experts and leaving decisions up to them. (Sone et al. 2013, pp. 162–181.)

is possible," and mentioned her experience on the government panel that helped formulate the policy options.

> The zero nuclear scenario is not something that is intended to attain zero nuclear power exactly in 2030, like a hole in one, but it means that we aim at the realization of zero, hopefully earlier than 2030, and even if it is delayed for some reason, for example, insufficient renewable energy, we should try for zero sometime as close as possible to 2030.

Ms. Edahiro highlighted the possibility that renewable energy will not be developed as fast as expected. However, she emphasized that the zero scenario can be attained if we use fossil fuel energy as interim relief, introducing as much natural gas as possible to avoid increases in CO_2 emissions, while decreasing nuclear energy dependence and strengthening renewable energy.

On the other hand, Ms. Sakita stated that the 15 scenario was realistic at that moment, while leaving open the possibility of a complete phase-out in the future.

> If we apply the forty-year decommission rule to the current nuclear power stations and close older reactors, the percentage of nuclear power will become about 15% in 2030. In the meantime, we should introduce as much renewable energy as possible to create vibrant life and communities. Also, it is necessary to promote energy conservation and reduce CO_2 from fossil fuels. After such efforts, sometime close to 2030, we should think seriously about how to deal with nuclear energy. If we think we can reduce nuclear energy then, we should change our direction.

Prof. Tanaka, a professor of nuclear engineering at the University of Tokyo, stated, "The zero nuclear scenario in 2030 does not seem to me appropriate as a national policy" due to the limitations of renewable energy and the soaring costs of oil and other imported resources. He also admitted, however, that a complete phase-out of nuclear power might be possible in 40 or 45 years.

Only Dr. Nishioka, an expert in global warming prevention, did not directly mention the feasibility of the zero scenario in 2030. Based on the discussion in the Global Environmental Committee of the Central Environment Council, he stated, "Technically, we can do without nuclear energy if we extend the scenario to 2050," adding that, in such a case, it would be necessary to make full use of the latest technology, such as CCS (carbon capture and storage), which would be a great challenge in itself.

The second point that resulted in in-depth questions on Day Two was whether these three scenarios were appropriate from the beginning. There were a total of seven groups raising this type of question, with one group asking a question belonging to this category on Day One. This means that at least one-third of the 20 groups wanted to challenge the given options.

These questions can be divided into two sub-categories: one in relation to why the options still included nuclear energy after the disaster in Fukushima, and the other in relation to whether 2030 was appropriate for such targets. The following question was typical of those in the first sub-category.

> We experienced severe damage due to the Great Earthquake on 3.11 last year, and nuclear energy doesn't seem necessary to us. Why do the options include nuclear energy? (Group P)

> If you promote deregulation, various potential renewable energy sources that have not been fully developed due to regulations can be utilized. And if technical and diplomatic problems with neighboring countries are solved, we can also use methane hydrate. If all these things are considered, there must be better options than these three scenarios. So I wonder why we have to choose from these three scenarios. (Group G)

These questions were answered together with other partially related questions and, unfortunately, the question as to why nuclear power still had its place in the policy options did not become the focus of the discussion. More precisely, the question from Group P was answered collectively with questions from two other groups on the safety of nuclear power. On the other hand, the question from Group G was treated together with a question from another group on electricity system reform.

Another focus of the questions about the three scenarios was whether 2030 was appropriate for the targets.

> Why are these options targeting 2030? We understand that the zero nuclear dependency in 2030 will have a great influence on us, and that makes us think it's impossible. Why aren't there any different options such as zero nuclear dependency in 2050? (Group S)

This question was actually treated together with the questions on whether zero nuclear dependency would be possible in 2050. As shown above, some of the experts commented that the zero scenario could be more realistic in the longer term; for example, in 2050. However, the question Group S asked was why 2050 was not the target despite such optimistic prospects, and this question was not finally answered.

There were a few other questions about the appropriateness of the target setting of the scenarios.

> If we think about the Fukushima accident, I think it possible to reach consensus on at least decreasing nuclear dependency. Don't you think it possible to choose such a policy as to reduce nuclear power by 1% each year? (Group Q)
> Why don't we have an option with a single-digit level [regarding the nuclear dependency in 2030]? We want a single-digit level option. Is it impossible? (Group K)

To the former question, Ms. Sakita commented that there wasn't any discussion about a scenario in which nuclear power would be reduced by 1 %, and there were no other comments on this question. To the latter question, on the other hand, Ms. Sakita and Ms. Edahiro reported that, during the scenario formulation process, some members argued that the dependency on nuclear energy might remain at a few percent in 2030 even if the zero scenario were chosen. Referring to the formulation process itself, they encouraged the participants to discuss whether the scenarios themselves were really appropriate, and not to regard them as something unchangeable.

> When we formulate the scenarios, we thought it necessary to narrow down the options for ease of discussion. Then, we finally came up with zero, 15, and more [20-25%]. If you think a single-digit option is essential, I would like to ask you to propose it. (Ms Sakita)
> The current discussion is moving toward a forced choice between zero and 15% in 2030. This makes me regret that we haven't kept a single-digit level option…. As Ms Sakita says, it is better to think that these scenarios are just a springboard for discussion and to voice your opinions by proposing alternative options or by declining the given options, instead of just choosing one from these three. (Ms Edahiro)

Here, the participants questioning of the scenarios and the experts responses to the questions finally appeared to communicate directly with each other. However, most questions regarding the appropriateness of the scenarios received insufficient responses. In general, the framework underlying the policy options was very obvious to the experts, and it was difficult for them to imagine how the participants would perceive it and what questions they would have. To deepen the discussion observed here, it is necessary to set up a different forum for discussion.

5.4.3 Participant Evaluation

At the end of the discussion forum, the DP organizer asked participants a few evaluation questions in the final questionnaire (T3). The participants were asked to rate each component of the forum, such as the plenary and group sessions, on a seven-point scale. To the question of whether "I learned a lot from people with different positions [in the group discussions]," 72.6 % of the participants answered positively (from 5 to 7), with 44.9 % answering "7 (strongly agree)." On the other hand, when asked whether "the responses of the experts [in the plenary sessions] were appropriate," only 21.4 % of the participants answered "7 (strongly agree)," although a total of 66.7 % of participants answered positively. The DP participants were quite satisfied with the dialogue between them and the experts while they also seemed to have gained inspiration from the group discussions.

In this regard, the results for the question of whether "the questions raised by other groups [in the plenary sessions] aroused my interest" also deserve some attention. About one-third (34.4 %) answered "strongly agree," with a total of 78.9 % of participants giving a positive evaluation. Both of these figures are more than 10 % points higher than those for question regarding the experts' responses. These results indicate that a variety of discussion points raised by other the groups were, at the very least, as informative as the responses given by the invited experts.

5.5 Impact on Policy Decision

5.5.1 Results of the DP and National Discussion

Figure 5.2 summarizes the participants' responses regarding the policy options (scenarios) in the three consecutive questionnaire surveys: T1, T2, and T3.[15]

[15] The questionnaires asked the participants whether they supported each of the three scenarios on a eleven-point scale, from 0 ("strongly disagree") to 10 ("strongly agree"), with 5 being "exactly in the middle." A "supporter" of a scenario here refers to a participant who answered exclusively in favor of one scenario, rating it at 6 or higher.

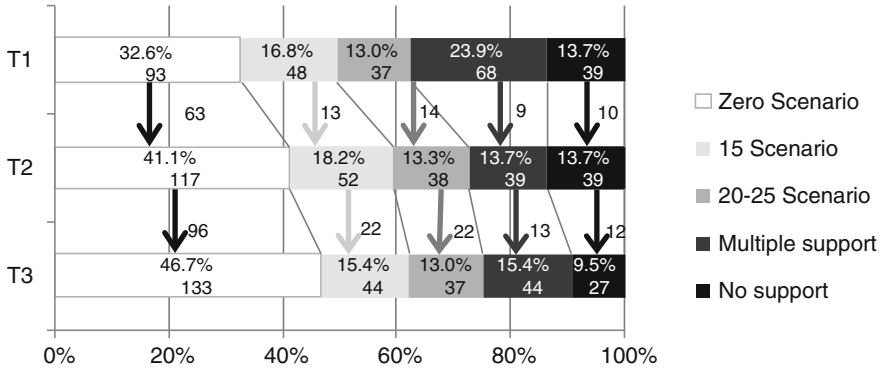

Fig. 5.2 Policy preferences of the DP participants (DP Steering Committee 2012b, p. 73)

The results show that more and more participants supported the zero scenario as they gained more information and had more opportunity for deliberation, with 46.7 % finally supporting the zero scenario. The percentages of participants supporting the 15 and 20–25 scenarios remained relatively unchanged, while the number of those who supported more than one scenario (multiple support) or who didn't support any one of the three (no support) decreased. On the surface, it appears that the participants' support shifted from multiple and no support to the zero scenario.

However, a closer look at the results on an individual level reveals that the changes in attitude were more complex. For example, only 13 (exactly a quarter) of the 52 respondents who supported the 15 scenario at T2 supported that option at T1. Similarly, only 14 of 38 participants (approximately one-third) who supported the 20–25 scenario at T2 had supported that option at T1. The attitude shift from T2 to T3 was less marked, but only half of the participants who supported the 15 scenario at T3 supported the same scenario at T2 (22 out of 44), while 22 out of 37 participants who supported the 20–25 scenario at T3 supported this scenario at T2. Thus, a significant percentage of participants, including those who eventually supported the 15 or 20–25 scenarios, demonstrated a change in attitude.

The questionnaires also contained items related to the criteria with which the participants decided on the appropriate policy option. The key questions in this regard asked participants to rank on an eleven-point scale (from 0 to 10) each of the four fundamental criteria discussed on Day One; namely, safety, cost, stable supply, and prevention of global warming. The T3 results for these questions demonstrate that safety was the participants' first priority, with 92.3 % answering they thought safety important (6 points or higher), with 78.2 % regarding stable supply, 60.4 % global warming prevention, and 48.4 % cost as important.

The problem that we have to consider is how we should interpret these results. In the DP report, which was published two weeks after the forum, the steering committee provided a discussion of the "policy implications" of the DP results (DP Steering Committee 2012b, p. 87), which affords a useful starting point for a consideration of the problem.

As to the reason for the exceptional emphasis on safety, the report states, "Public distrust, particularly of nuclear power, has not been dispelled yet," which appears to be an appropriate conclusion given the series of "Really?" questions asked at the plenary sessions. Support for the zero scenario steadily increased from T1 through T3, with the report claiming:

> The increase in the support for the zero scenario can be explained by the simplicity of the scenario. Choosing it compels us to pursue drastic growth in renewable energy and dependence on fossil fuel energy, which more and more participants seemed to accept as affordable after deliberation. (DP Steering Committee 2012b, p. 87)

The latter half of this quotation corresponds to our observations regarding the DP discussion. One of the most controversial parts of the discussion was whether the zero scenario was realistic. The overall DP results suggest that a considerable number of participants regarded the zero nuclear scenario as promising after two days of discussion. However, there is no conclusive proof that the participants found the zero scenario simple and easy to understand.

In fact, the analysis of the plenary discussions indicates that some participants thought the zero scenario was still ambiguous in a number of aspects, particularly in that it was not clearly explained why the target year was 2030 and how attainment of the scenario would affect Japanese society. As observed in the discussion on Day Two, the participants were not necessarily satisfied with the set of three scenarios given. Any one of the three scenarios was far from ideal for most participants. Under such circumstances, participants who voted for the zero scenario were forced to make a painful choice as that scenario was the only promising option for participants who regarded safety as the first priority.

When considering the impact of the DP on policy decision-making, we must also draw attention to the results of the other parts of the National Discussion (Fig. 5.3).

A total of 89,124 public comments were sent to the government, with an overwhelming majority (87 %) of the comments supporting the zero scenario. The government staff read all the comments and categorized them according to the major issue addressed in each comment. As a result of this analysis, the government reported that one-third of the public comments addressed three clear points; that is,

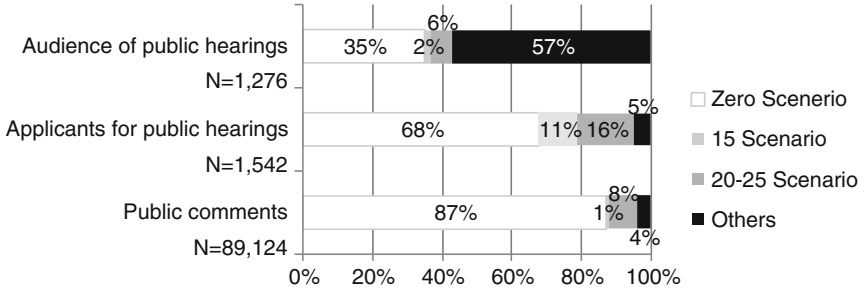

Fig. 5.3 Policy preferences expressed through public comments and public hearings (Based on materials distributed at the Review Panel on the National Discussion)

(1) concern about nuclear safety (47,901 comments), (2) the necessity for further development of renewable energy (35,063 comments), and (3) the unethical nature of nuclear development (33,276 comments). The government also reported the distribution of opinions expressed in the applications for and audience questionnaires of the public hearings held at eleven sites across the country, including Fukushima. According to the questionnaire distributed at the public hearings, the majority (57 %) of the audience did not clearly support a specific scenario. However, about two-thirds of those who volunteered as panelists in the public hearings supported the zero scenario. Although the preferences expressed through these self-appointed elements of the participation process do not necessarily represent the entire picture with regard to public opinion, it is important to note that a large number of people made an effort to directly express their concern about nuclear safety.

5.5.2 The Review Process of the National Discussion

At the time the government called for the National Discussion, it didn't specify how the results would be taken into account in the final policy decision. Generally speaking, it is almost impossible for policymakers to say with any certainty what impact a specific public participation process may have on decision-making, for public participation is only one of a number of elements influencing their decision. However, it is possible and even necessary to clarify at least the initial steps in the handling of the participation results; for example, detailing the advisory committees to which the results will be sent for further deliberation or the decision-makers who will refer to the results directly when formulating a final decision.

Although no prior arrangements had been made with regard to the process after the National Discussion, the government hurriedly set up an ad hoc expert panel, the Review Panel on the National Discussion, to deliberate on how best to interpret and use the results from the DP as well as those from the public comment process and public hearings. The Panel was chaired by the State Minister of National Strategy, Motohisa Furukawa, and consisted of eight experts in public opinion research, journalism, communication and media studies, political science, and administrative law. The Panel met three times between August 22 and 28 to discuss how to comprehensively interpret the results from the National Discussion as well as from other opinion polls conducted by the media, and how the government should reflect the results in the final decision. The meetings were broadcast live over the Internet, with all materials under discussion disclosed at the same time.

In the Review Panel, the secretariat (the National Policy Unit at the Cabinet Secretariat) first provided an overview of the results from the National Discussion, covering five sources: (1) DP, (2) public hearings, and (3) public comment, sponsored by the government, as well as (4) questionnaire surveys collected at fifty-four local briefings hosted by various private and civil society organizations, and (5) public opinion polls conducted by the media. The secretariat then proposed that these different results should be analyzed both quantitatively and qualitatively, not

only counting or comparing the numbers supporting each policy option but also analyzing the logic behind the policy attitudes by scrutinizing answers to the DP questionnaires as well as comments and opinions expressed in the public comment process, public hearings, and questionnaires at local briefings.

The Panel members basically approved the proposal, and agreed that an emphasis should be placed on qualitative analysis in order to better understand the reasons for or logic behind the public's choices as well as the choices themselves. In reference to such complementarity between quantitative and qualitative analysis, there was active discussion about how to evaluate the public comments. Some members argued that numerical analysis of public comments was pointless as they did not represent public opinion at large. However, others emphasized the significance of the public comment process as a valuable means of public participation, arguing that the number of people supporting each policy option was to some degree meaningful.

In the second meeting, held five days later, the focus of the discussion moved on to how to interpret the results from the different processes, including the DP, as well as how to categorize major issues based on the arguments expressed in public comments or questionnaires from public hearing sites. One of the major issues here was the degree of reliability of the DP results. Some members challenged the legitimacy of the DP process, emphasizing its vulnerability to domination or manipulation; however, Professor Sone, who was the head of the DP Steering Committee and a member of the Review Panel, rejected such arguments. Although the panel members did not reach a clear consensus, most of them seemed to agree that, as one Panel member stated, "The DP can provide supplemental information about the thought of average people who do not actively participate in public hearings or public comment processes".[16] Another Panel member pointed out that the results clearly showed "people's outrage and distrust",[17] which also provided an important perspective when interpreting the output from the National Discussion.

The final meeting was held on the following day, and the secretariat presented a draft of the review report, which was approved after an hour and a half of discussion. The report summarized the results of the National Discussion and considered the implications for the decision of the energy strategy. Next, on September 4, the State Minister of National Strategy published its final version, which drew four implications from the results of the overall National Discussion.

First, the report concluded that more than a half of the population desires a move away from dependency on nuclear energy at some time in the future. Based on a detailed analysis of the DP results, almost half of those supporting the 15 scenario at T3 (about 7.4 % of the total participants) rejected the future utilization of nuclear power. The Minister, therefore, reached the above conclusion by adding this 7.4 % to the percentage of participants who supported the zero scenario at T3 (46.7 %) to give a slim majority of 54.1 %.

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[16] Comment by Professor Junko Obata of Sophia University, a Panel member.

[17] Comment by Professor Tadashi Kobayashi of Osaka University, a Panel member.

Second, the report suggested that, despite this small majority, there was still debate over how fast Japan should phase out nuclear energy and how realistic the zero nuclear policy was. This conclusion was based on the fact that approximately half of the DP participants and about 50–70 % of the respondents to the opinion polls conducted by the media chose options other than the zero scenario, and that about half of the population expressed concern regarding the target of zero nuclear power for 2030. The report also urges attention be given to the fact that nearly half of the DP participants changed their views between T1 and T2 as well as between T2 and T3, and that as many as a quarter of the DP participants continued to debate which option to choose even after two days of deliberation.

Third, the report discusses the overwhelming support for the zero scenario expressed by the public in their comments as well as by the applicants to the public hearings. Of course, the report reminds us that these results are less representative of public voice than those of opinion polls or the DP. Nevertheless, the report emphasized the significance of the surge in direct support for the zero scenario or the complete phase-out of nuclear power.

> As many as 77,000 public comments demanded a zero nuclear policy, and there are demonstrations every week against the restart of nuclear power stations. These reflect the public's distrust of the government and their concerns about nuclear safety. The first priority should be to overcome such distrust and concerns. ("For the formulation of the Strategy: Implications of the National Discussion" pp. 5-6)

This statement can be regarded as one of the most significant outcomes of the DP, and we will discuss this issue in Sect. 5.6.2.

Fourth, the report also discusses how to overcome conflicting opinions, listing eleven points of discussion extracted from the results of the National Discussion as follows.

1. Is it possible for the strengthening of safety measures to prevent a recurrence of the nuclear accident?
2. Nuclear power might turn out to be more expensive, considering health hazards and decontamination cost.
3. What to do with spent nuclear fuel? What are the realistic options and what responsibility should the government take?
4. It is not acceptable, on the other hand, to increase the amount of spent fuel when there is no clear plan for its disposal.
5. How to gather talented people to take charge of nuclear safety, including decommissioning projects, while the country is decreasing nuclear power dependency?
6. How is it possible to accelerate the development of renewable energy and energy conservation technologies? How can a stable energy supply be maintained when the development is stagnant?
7. Will renewable energy and energy conservation turn out to be cheaper than fossil fuel or nuclear energy? When will this be realized?
8. Won't there be a hollowing out of industry and job losses due to the increase in energy costs and instability of supply?

9. The development of renewable or new energy should be turned into opportunities for the creation of new industries and employment.
10. What should be the scenario after 2030?
11. How to encourage public participation in order to restore public trust in the government and public sector?

The report emphasizes that further discussion is necessary and that the government should express clear principles about (1) how to overcome the public's distrust of and concern about nuclear energy, (2) how to expand the use of renewable energy and energy conservation measures, and (3) their vision for a society built upon the current energy policy choice.

The final report was mostly planned and drafted by the secretariat, and the contribution of the Panel was limited to the provision of supplementary commentary on the given draft. Due to the time constraints, not all of the Panel members had enough time to prepare for the meeting with a careful reading of material on the results of the National Discussion. A considerable part of the Panel discussion involved no more than abstract, theoretical arguments, which should have been completed well before the National Discussion started. For all that, this one-week review process was not without value in that it was an unprecedented attempt to create a connection between the public participation process and policy decisions.

5.5.3 The Final Policy Decision and Its Aftermath

With the publication of the final report of the National Discussion, the formulation process of the energy strategy entered its final phase. In this phase, the prefectural and municipal governments in Aomori, where the nuclear fuel reprocessing plant and other nuclear-related facilities are located, made a strong protest against the zero nuclear option. Aomori has accepted spent nuclear fuel on the promise that the prefecture provides a site for the nuclear fuel cycle project and would never be turned into the final disposal site. The people of Aomori thought that Japan would one day withdraw from the nuclear fuel cycle project if the zero nuclear policy was adopted and that would place them in jeopardy. The power industry also tried to discourage the government from its target of zero nuclear power, enumerating a number of possible drawbacks to the policy.

Facing such a backlash in the final phase, the government began to consider the various risks associated with the zero nuclear option. In the course of the discussion, METI issued a memorandum on "The problems of the zero nuclear policy," which covered most of the issues raised by the concerned local governments and the power industry. The memorandum listed four challenges; that is, (1) obtaining the support of nuclear host regions, particularly in regard to spent nuclear fuel and the restart of existing nuclear power stations, (2) increased public burden due to zero nuclear power, (3) economic and security issues such as the influence on diplomacy and security or the loss of bargaining power in resource procurement,

and (4) other mid- and long-term issues including the development of alternative energy sources, measures against global warming, and so on.

On September 14, the Energy and Environmental Council in the Cabinet finally decided the Innovative Strategy for Energy and the Environment, and the Strategy nevertheless targeted the realization of "a society that does not depend on nuclear power," "green energy revolution," and "stable energy supply." Based on these ideas, the Strategy announced three principles regarding nuclear power as follows:

1. Strict application of a forty-year limit to the operation of existing nuclear power plants
2. The Nuclear Regulation Authority (NRA)'s safety assurance as a requirement to restart the operation of nuclear power plants
3. No new or additional construction of nuclear power plants

The Strategy then declared, "The government will mobilize all possible policy resources to such a level as to even enable zero operation of nuclear power plants in the 2030s." Although the wording remained vague, and a few issues, including the future of the nuclear fuel cycle, remained unresolved, the National Discussion thus resulted in the decision to pursue "zero operation of nuclear power plants in the 2030s."

The DPJ coalition government intended to create a new national energy plan, but, in the general election in December 2012, it suffered a crushing defeat because of a number of policy missteps over the previous three years. As soon as the conservative LDP-led coalition took power, Prime Minister Shinzo Abe insisted that targeting a zero nuclear policy in the 2030s was unrealistic, and he declared "a zero-based review" of the Strategy, which in real terms meant its abandonment. This occurred just four months after the decision to pursue the zero nuclear strategy. In April 2014, the Abe administration decided a New Strategic Energy Plan. The plan regarded nuclear power as "an important base-load power source" that contributes to the "stability of energy supply-demand structure, on the major premise of ensuring of its safety," representing a major about-face on nuclear policy.

5.6 Discussion and Conclusion

5.6.1 The Quality of the National Discussion

One of the two main questions dealt with in this chapter is whether the Energy DP succeeded in allowing for substantial interactions between the citizen participants and those experts who had hitherto played more substantial roles in the decision-making process. The DP participants did more than just passively receive information from experts and vote on given policy options. Their questions extended over such nuanced topics as the individual preferences of the experts and the

appropriateness of the policy options themselves. The categorization of the participants' questions that went beyond simply asking for technical information demonstrates that the questions covered three general areas, each of which can be thought essential to fundamental discussions.

First, there was a group of questions that challenged the information formally given in the briefing material. The questions on the safety or cost of nuclear energy asked on Day One are typical examples, and such questions helped reveal the various preferences of the experts.

Second, some participants questioned the experts' personal judgment regarding the options. In this context, an interesting example is the set of questions asked on Day Two in relation to whether the zero scenario was actually possible. These questions might appear somehow strange, considering the fact that the zero scenario was included among the policy options as most of the experts engaged in this energy debate agreed it was more or less possible. A large number of the DP participants thought that the zero scenario was the most desirable means to achieve a safe energy policy but, at the same time, they understood that there were great difficulties in terms of other criteria, such as economic efficiency and energy security. The participants were determined to decide for themselves, not leaving it solely to the experts, nevertheless they wanted to ascertain how realistic the individual experts considered the zero scenario to be for reference purposes.

Third, participants challenged the given policy options, asking whether there weren't any other options or how the given options were formulated. Participants also asked why the options included continued nuclear energy dependence despite the Fukushima disaster. These questions can be seen as the most radical as they challenge the very premise of the discussion. The experts found it difficult to respond to these questions as they themselves took the premises or framework of the discussion for granted.

Unfortunately, questions of this type did not elicit straightforward responses in the Energy DP. It was not that the experts clearly avoided answering such questions; rather they took a more subtle approach. In the plenary sessions, most questions in this category were combined with other technical questions and were not dealt with individually. As a result, the experts' answers mainly focused on technical details, which were naturally easier for them to answer, and in-depth questions challenging the framework of the discussion tended to be ignored. Due to time constraints, the DP program is not designed to allow participants to ask follow-up questions. If the participants had had opportunities for follow-up questions, the experts might have been forced to answer these questions more explicitly.

Although some of the in-depth questions were not answered openly, the significance of these questions was not lost. By posing the three types of questions described above, participants were not just asking for technical information, instead they questioned, even challenged, the validity of the prevailing official information, the experts' personal judgment on policy options, and the legitimacy of the discussion framework. Therefore, what mattered was not only the content of experts' answers but also the ways in which the experts presented the answers, particularly the fact that some experts avoided answering, intentionally or not, specific questions.

The results from the participant evaluation described above (Sect. 5.4.3) exhibit that participants were no less informed by the discussion points raised by other groups than by the responses given by the invited experts. As far as the observation of the DP discussion is concerned, the National Discussion succeeded in providing opportunities for substantial deliberation, not merely the one-way transfer of information from experts to the public.

5.6.2 Public Participation and Decision-Making

This chapter has also focused on the extent to which DPs or mini-publics can influence decision-making in the field of science and technology policy. In most cases, the connection between the public participation process and decision-making is obscured to outside observers, with only the policymakers themselves aware of its value. Lacking a substantial link to policy decisions, participation can be tokenistic or present unrealistic promises of more democratic governance (Felt and Fochler 2010).

In this sense, the importance of the review process cannot be overestimated although there were certain limitations in connection with the Review Panel itself. The disclosure of this post-participation process allowed an investigation of the way in which the results of the public participation were used and the degree to which they actually impacted policy. Any examination of the impact of the National Discussion, particularly that of the DP, on decision-making, should start with the conclusions (implications) of the review report.

First of all, the conclusion drawn in the review report that more than a half of the population would like to move away from dependency on nuclear energy can be said to reflect the DP results to a large extent. Approximately 90 % of public comments and 70 % of the opinions presented on the applications for participation in the public hearings demonstrated support for the zero scenario. However, the results from these conventional public participation methods are often thought to reflect only a narrow cross-section of public opinion. The great difference this time was that the results from the mini-public, the Energy DP, were also available. The support for the zero scenario increased as the DP participants gained more information and had greater opportunity for deliberation, with nearly half of the participants eventually supporting the zero scenario at T3. In addition, the analysis of T3 data revealed that approximately half of the supporters of the 15 scenario were in favor of nuclear phase-out at some time in the future. Thus, the conclusion that more than half of the population is in favor of a break from dependency on nuclear energy is based on solid evidence from the DP.

Another significant impact of the DP can be found in the review report's reference to the underlying cause of the "direct action" taken by the public, such as the large number of public comments and demonstrations calling for a zero nuclear option. The State Minister in charge of the National Strategy published the review report, and it is not surprising that he should have mentioned the public comments,

which appeared in response to an official process. It is surprising, and unusual, however, that anti-nuclear demonstrations, quite clearly 'uninvited' participation (Wynne 2007), were referred to in such a positive manner in this formal document.

It is a well-known episode in Japanese contemporary history that the former Prime Minister, Nobusuke Kishi, once stated, "I have to listen to the 'silent majority (*koe naki koe*).' All I can hear now is the 'loud minority (*koe aru koe*).'" This occurred in 1960, when he was surrounded by demonstrators protesting against the Japan-US Security Treaty. This famous phrase was given in a press conference, and Kishi continued by referring to the demonstration outside the Diet as the "loud minority," saying, "Yielding to this 'loud minority' would place Japan in crisis."[18]

Fifty-two years later, in June 2012, the Japanese public was reminded of the comments made by the late Prime Minister Kishi when the then Prime Minister Yoshihiko Noda remarked to reporters with regard to a crowd of demonstrators, "They're making lots of noise."[19] Mr. Noda was criticized for interpreting the voice of protest as mere "noise." Although he might not have meant to be offensive, this episode seemed to reveal that politicians' view of the demonstration as a "loud noise" drowning out the "silent majority" remained.

Despite the obstinate belief that direct public action is representative of only the "loud minority," the government finally concluded in the review report, "[The public comments and demonstrations requesting a zero nuclear policy] reflect people's distrust of the government and concerns about nuclear safety." It is reasonable to consider that the Energy DP, by highlighting the outrage and distrust felt by the "silent majority," provided a significant background to this historic conclusion. The Energy DP showed that at least half of the population supported a zero nuclear option with the hope of making safety a first priority, and this result compelled policymakers to regard the public comments and demonstrations as something akin to the public sentiment displayed in the DP, rather than as a "noisy minority."

Nevertheless, the about-face after the 2012 general election demonstrated the vulnerability of public participation and deliberation to changes in political circumstances. The LDP-led coalition government did not merely reject the energy strategy formulated by the DPJ administration, but ignored the results from the National Discussion including the DP. Further discussion on a national scale on a number of unsolved questions, particularly regarding the restart of nuclear power stations, the future of nuclear fuel cycle policy, and the disposal of high-level radioactive waste, was neglected. Thus, the National Discussion can be seen to have been no more than a small ray of hope among a mountain of challenges facing participatory and deliberative nuclear governance in this country.

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[18] The Asahi Shimbun, May 28, 1960 (evening edition).

[19] Mr. Noda's comment was in Japanese (he was reported to have said, "*Okina oto ga shimasune.*"), and the English translation shown here in the text is from the New York Times, June 29, 2012. http://www.nytimes.com/2012/06/30/world/asia/thousands-in-tokyo-protest-the-restarting-of-a-nuclear-plant.html. Accessed 20 Aug 2014.

5.6.3 Conclusion

The essence of mini-public-type public participation is to provide opportunities for deliberation on important public issues to ordinary members of the public who are not necessarily interested in the issues at hand. Through the process, many participants are encouraged to think about the issues and the information provided, questioning and challenging the premises and framework of the discussion as well as the appropriateness of the policy options themselves. Once reported through the media, the deliberative process in a mini-public gives other members of society an opportunity to think about and discuss the issues.

The deliberation process appears to continue within and around the individual participants even after the mini-public forum. Although the author did not have access to the actual participants of the Energy DP, he was able to interview some of the citizen panelists who had participated in a public forum using a modified DP method, organized in parallel with the government-sponsored DP.[20]

One of the interviewees, a female office worker, reflected on the change that she experienced after the forum, saying:

> At first, I tended to think that economic reform is more important than energy and nuclear policy. However, I came to understand there are various energy policy options, including a zero nuclear policy. Even though I didn't change my attitude greatly at the time of post-event survey [T3], I have gradually changed my mind toward zero nuclear dependency while watching TV broadcasts on other countries that stopped using nuclear power. (Interviewed on November 14, 2012, by telephone)

The point here is not that this participant changed her attitude from a pro-nuclear stance to support for the zero option. Rather, the important point is the fact that she continued to deliberate on the issue even several months after the forum. On the day of the forum, a TV crew kept up close coverage of her group, and she happened to appear in a news program. One of her coworkers noticed her on the broadcast, and later spoke to her about it. That led them to discuss nuclear energy issues, which had seldom been a topic of conversation at their office in the past. In relation to this, the participant explained, "The participation in the forum actually led me to a wider discussion." This is only one episode from the independent public forum, but it is not unlikely that the 285 participants of the Energy DP had similar experiences after their involvement in the forum.

The National Discussion revealed the possibility of emphasizing the voices of the "silent majority," not as an aggregation of reflex responses to opinion polls but as the voice of real flesh-and-blood people. Although this possibility is still

[20] The forum recruited the participants from 3,000 randomly selected residents of Kawasaki-city, Kanagawa Prefecture. A total of 670 people responded to T1, and 57 people eventually participated in the discussion forum held in August 2012 (Miyagi and Yagishita 2013; Yagishita (Ed.) 2014, pp. 50–51). The author was a member of the organizing committee of this project and interviewed with four ex-participants from November to December in 2012.

particularly vulnerable to the chaotic world of real politics, it is necessary to continue searching for room in Japanese society for such voices to be heard, and that should be one of the essential lessons from Fukushima.

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