

## **Recent Trends and New Approaches of Public Engagement in Japan**

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### **Abstract**

Following nearly two decades of research and trials, public engagement (PE) was finally introduced into Japanese national science and technology policy after the Great East Japan Earthquake and Fukushima nuclear accident in 2011. The government used a deliberative poll (DP) when drawing up its new energy strategy, which was nevertheless retracted soon after the change of government in 2012. This aboutface shows that the PE mechanism has not yet taken root in the national policymaking arena in Japan, and it is necessary for society as a whole to gain more experience in PE in science and technology. The creation of a national network of dialogues is a promising way of applying PE in Japan on a universal scale, and the experience of World Wide Views on Biodiversity (WWViews 2012) in Japan demonstrated that science centers can act as excellent hubs for such a network. After WWViews 2012, the authors developed a two-hour PE workshop program for disseminating informal dialogues on science-in-society

issues as well as a scheme for creating a network of dialogues with science centers acting as local hubs. Our future research will be directed at the design of a national resource center for dialogues which can provide various resources to develop a sustainable network of dialogues.

### **Trends in Public Engagement in Japan: 1998-2014**

The purpose of this paper is to explore recent trends in public engagement (PE) in science and technology in Japan, including the deliberative poll (DP) on national energy choices implemented after the Fukushima nuclear accident, and thereby demonstrate problems facing participatory and deliberative exercises.

The history of PE in science and technology in Japan is relatively new, dating back about two decades. A group of researchers in science and technology studies (STS) first introduced the concept of consensus conferencing to Japan, convening pilot conferences on gene therapy (1998) and information and communication technology (1999). Immediately following the success of these two pilot exercises, the Ministry of Agriculture, Forestry, and Fishery funded another pilot conference in 2000, the “Consensus Conference on Genetically Modified Crops.”

This preliminary period has been followed by a phase of intensive research and development, in which groups of researchers have been competing in an effort to construct new methods of public engagement. The prime concern of the researchers has been to make the results of PE heard by policymakers, with some researchers collaborating with prefectural or municipal governments to implement PE tools in actual policymaking processes, and others investigating the possibility of institutionalizing technology assessment to make debates on science and technology more transparent. In this sense, the government’s 4th Science and Technology Basic Plan, put together just a few months after the Great East Japan Earthquake in 2011, can be regarded as a milestone in that it clearly states that the government should encourage public participation in policy planning and promotion as well as address ethical, legal and social issues (ELSI) to promote science and technology policy “based on the viewpoints of ordinary citizens.”

Apart from this comprehensive declaration in favor of promoting PE in science and technology policy, the government was pressed to radically reform its energy policy after the Fukushima nuclear accident. The accident aroused strong distrust of the nuclear industry and national energy policy, which had operated as a closed decision-making process from its inception. In order to rebuild public trust in energy policy, the then DPJ (Democratic Party of Japan) coalition government decided to open a national debate on energy alternatives. DP was introduced as one of several methods to realize this national debate, and the government used the results when drawing up its new national energy strategy, which stated that the country should phase out all nuclear plants by the 2030s. Although this process was an epoch not only in nuclear and energy policy but also in PE in science and technology in Japan, the results of the DP and subsequent strategy to phase out nuclear power were retracted soon after the conservative coalition took power in the 2012 general election.

This aboutface shows that the PE mechanism has not yet taken root in the national policymaking arena in Japan, and that it is necessary for society as a whole to gain more experience in PE in science and technology. PE projects that seek to communicate directly with policymaking processes are often resource-heavy and are not suitable for repetitive applications involving a large population. To promote the spread of PE, it is important that we create opportunities for people to discuss the societal implications of science and technology on a variety of levels, not just as direct input to the science and technology policymaking processes. Against this background, the authors have been working at the Center for Science Communication, Japan Science and Technology Agency (JST) on a research project to identify tools and methods with which to create spheres of discussion on science and technology that can disseminate across the entire country. Here we describe the major outcomes of that project.

### **Promises and challenges of PE methods: from the experience of WWViews in Japan**

The creation of a national network of dialogues is a promising way of applying PE in Japan on a universal scale, with science centers acting as hubs for such a network. World Wide Views on Biodiversity (WWViews 2012) in Japan was coordinated by the National Museum of Emerging Science and Innovation (Miraikan) as a science

communication activity with the aim of enhancing dialogue on and building awareness of global issues. The staff members of the Miraikan Science Center coordinated the entire meeting and facilitated the table discussions. Our observation and analysis of the Japanese meeting revealed that the participating citizens had a chance to recognize and understand biodiversity issues through applying them to their own experiences and everyday lives (Ikebe et al. 2013; Kori et al. 2013). Although the results of WWViews did not have any direct impact on public policy in Japan, the discussion in the meeting itself succeeded in creating a sphere of dialogue on a science-in-society issue, and the implementation of WWViews 2012 in Japan demonstrated that science centers can be excellent organizers of such dialogues. The extensive experience and know-how of the Miraikan staff members were displayed in every aspect of the production of the WWViews meeting, particularly the examination of the draft questionnaire and briefing materials. Further, the local Japanese organizers were able to contribute to international discussion on the revision of the questionnaire and briefing materials by taking advantage of the know-how of the Miraikan staff as well as their network of experts.

At the same time, however, the experience of the WWViews meeting (and other recent PE projects) in Japan has led us to reconsider challenges that must be overcome in refining PE tools. For example, how is it possible to bridge the gaps between the often expert-provided agendas and the realities of participating citizens, and to summarize and visualize the disparate voices gathered from the participants, making it possible for us to communicate them to the media and policymakers? In addition, the creation of appropriate briefing materials that can be readily digested by participants within a limited amount of time is another major challenge. The question here is how to create an easy-to-use PE tool that would aid in the establishment of a network of dialogues, while meeting such challenges.

### **Designing a new PE tool**

To achieve the abovementioned goal, the authors have developed a PE tool to help establish a network of dialogues in which participating citizens can discuss science-in-society issues in a relatively informal manner (Yagi and Yamanouchi 2013). For ease of dissemination and application to science centers, schools, and other potential hubs of

the national network of dialogues, the tool was designed to simplify participation: (1) the program length is limited to two hours, and (2) no background knowledge or preparation is required for anyone with a junior high school or higher level of education. It is also necessary for organizers to be able to use the tool without difficulty, so it should provide a fixed discussion format (with cards, sheets, a briefing video, and other materials specifically designed for the program) and shouldn't require the presence of skilled facilitators. Table 1 provides an outline of the program developed, the “*Sankaku* Table<sup>1</sup>.” Since December 2012, the authors have conducted the program on the topic of biodiversity, using a briefing video clip from WWViews 2012, several times in high schools and science centers, and have successfully created opportunities for informal dialogues.

Table 1: Program outline

	Tasks	Time	Materials
0	Ice breaking		Animal cards
1	Opening remarks	5min	
2	Self-introduction and role assignment	10min	Animal cards Role assignment sheet
3	Guidance to the program	5min	
4	Information	10min	Briefing video clip
5	Group discussion 1	40min	Choice cards, Help cards, Yellow card
6	Group discussion 2	40min	Wrap-up sheet (slip)
7	Wrap-up and closing	10min	Final comment sheet

In 2013, we began collaboration with the Shizuoka Science Museum and implemented the program as a part of its science communicator training program. The

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<sup>1</sup> The Japanese word *Sankaku* refers to participation or engagement (参画), but also a triangle (三角). We use this word because the participants in the program are expected to discuss complex issues that cannot be simply answered by true (naught) or false (cross). *Sankaku* also implies to write (*kaku*) three (*san*) times, which represents the requirement that the participants fill in prescribed forms three times during the program.

training program involves teachers, science center volunteers, and coordinators of local community organizations, and the trainees are expected to master the program and use it in their own work sites. Although the scheme has just started and its impact is still small, this can be seen as a positive attempt to promulgate dialogues on science-in-society issues with science centers working as hubs, and we are currently exploring collaboration with more institutions.

### **Conclusions and further research**

To date, we have developed a tool for disseminating informal dialogues on science-in-society issues as well as a scheme for creating a network of dialogues with science centers and other institutions acting as local hubs. Our next target is to actually establish a nationwide network of dialogues in Japan through collaboration with a greater number of local institutions. Once we have succeeded in realizing such a network, it will be possible to link an otherwise one-off national meeting with continuing dialogues at each level of the society. For example, when the next WWViews meeting is held in Japan, it can be both preceded and followed by a number of workshops at science museums, community centers, and schools around the country.

To realize such a sustainable network, it is necessary to develop a national resource center for dialogues, which is capable of identifying prospective subjects for discussion, providing appropriate and high-quality briefing materials as well as developing new PE tools. One example can be found in the Sciencewise Expert Resource Centre (ERC)<sup>2</sup> in the UK, while some European parliamentary technology assessment (TA) institutions, such as the Danish Board of Technology, also provide a template for the independent coordination of PE processes. However, simple duplication of the British ERC or other European TA models is not applicable, and it is necessary to adapt them to meet the specific cultural and structural confines present in Japanese society when adopting such models. From here, further research on the design of a feasible resource center is needed to expand PE in Japan.

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<sup>2</sup> <http://www.sciencewise-erc.org.uk/>

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