Requiresments for the Substantive Public Involvement in Transportation Infrastructure Development: Analysis of Causes of Public Disputes

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Abstract: Public involvement (PI) has recently been adopted in planning process of transportation infrastructure development in Japan, which increased communication with the public. However, PI communication still remains one-way and limited, whose process does not effectively prevent public disputes. This study defines such PI as conventional PI, and proposes more effective PI, defined as substantive PI. It points out that conventional PI has problems of procedural justice and creates causes of disputes due to concerns about plans’ potential adverse impact. It also discusses importance of process-control to improve procedural justice and effectiveness of creative problem-solving methods to provide a win-win settlement through interest-based communication in negotiation theory. It further analyzes policies to alleviate the impact in welfare economic perspective, and indicates possibility of mitigation policies to relieve external cost and increase social surplus. Finally, it proposes requirements for substantive PI, which effectively prevents public disputes based on prior analyses.

Key Words: Public Involvement, Procedural Justice, Dispute Resolution

1. BACKGROUND

Economic growth of Japan has been supported by the development of intensive regional-scale social infrastructures, including transportation network and flood-control infrastructures since the end of the Second World War. However, as Japanese social structure is recently experiencing transition from growth to maturity, there is an increasing opposition against priority on further development of social infrastructures. Individual public works also come under criticism based on environmental concerns. Some public works including dam and road projects in different areas have resulted in public disputes.

Recent opposition against public works is mainly attributable to their processes. Many of the public disputes in public works such as transportation infrastructure development is due to
anxiety of residents who live in adjacent areas to the project sites about adverse impact of the projects that may not be covered by legal compensation. They often claim for concrete response from the planning body to their concerns over negative impact. Some of them express radical opinions to attract attention from the public and question the inconsiderate planning process that does not fully consider the adverse impact of the projects on neighborhood residents. The administration takes their concerns merely as egoism of the residents and does not fully address them, which often aggravates the disputes. Most of the cases that had ended up in litigation went through the similar process. Recent criticism against public works could be considered partly due to such discontent with the process of public works.

There are two recent and future events that could make the public works even more difficult to be implemented. Firstly, revised Administrative Case Litigation Law took effect in 2004 as part of the Judicial System Reform that has been implemented since 1999 in Japan, which opened the way for legal settlement of disputes in public works. Consequently, it is expected that the number of administration cases related to public works will increase, and conventional process would no longer work. Secondly, Japan’s first baby-boomers (born in 1947-1949) began to get retired, starting in the year 2007. The large group of retired people who are wealthy and fond of discussion will have spare time and energy to get involved in the regional and local issues, which is considered another potential obstacle to the public works.

Public involvement (PI) has been implemented at planning and designing phases in public works projects in Japan. Implementation of PI is aimed at gaining public trust in the administration that deals with public works, implementing projects smoothly, and avoiding futile disputes. There are not enough past records of PI projects to examine its effects at this point. However, some people question the effect of consensus building in some of the projects that adopted PI or related concepts. Therefore, it is necessary to examine whether PI is effectively implemented in public works projects and what requirements need to be met for successful PI projects.

This study analyzes causes of disputes in public works, reviews theoretical research in negotiation theory and social psychology, and finally proposes requirements of more effective PI that sweep away public distrust in the administration.

2. ADOPTION AND SITUATION OF PUBLIC INVOLVEMENT (PI) IN JAPAN

2.1 Adoption of PI in Japan

Public Involvement (PI) is employed in Japan so as to implement public works smoothly and to ensure procedural justice. Public involvement in public works overseen by the Ministry of Land, Infrastructure, and Transport (MLIT) is directed by the “Guideline for Public Involvement in Planning of Public Works by the Ministry of Land, Infrastructure, and Transport” issued by the administrative vice minister in 2003. In addition, the Amendment to River Law in 1997 requires PI in planning of river-related public works, and Guideline for Public Involvement in Road Planning Process in 2002 requires PI in planning of road-related public works.

The MLIT Guideline in 2003 merely requires agencies to propose multiple alternatives, to provide information to wide public, and to collect public input through briefing sessions or public hearings. The Amendment to River Law merely states “Necessary measures including public meetings have to be taken to reflect opinions of affected residents only when such
measures are considered necessary in developing a draft plan for river improvement project.” The process of developing plans with PI and citizen participation is left to the discretion of officials who actually develop the plans at local offices. Therefore various different ways and processes of implementing PI and citizen participation through trial and error processes are observed in different local offices.

2.2 Practice of PI in Japan
Some people from both the public and the government are questioning the effectiveness of adoption of PI and citizen participation in large-scale arterial highway projects and river improvement projects. For example, construction project of part of the Tokyo Gaikan Expressway had been frozen for 40 years because of a massive opposition campaign from citizens. Though dialogs have resumed in 2002 between the government and residents along the project sites including opposition groups, each party merely repeats its own contentions without listening to the others attentively, and they have not had any concrete discussions of the plan yet. Besides, since the government went into the statutory planning process without reaching agreement in the discussion, some of the residents along the project sites who are against the contents of the plan started an opposition campaign.

Another example is the river system improvement plan of Yodogawa River in Osaka Prefecture. Citizen advisory committee was entrusted to discuss contents of the plan. But as the committee reached conclusion that goes against the intentions of the planning body, MLIT, the statutory committee was later suspended.

Recently, the trend is going back to the government-led planning process, where the government develops plans and only limited numbers of citizens are involved. There are several reasons for this trend. First, the discussion toward developing plans has taken such a long period of time. Second, the discussion with the public often leads to a conclusion that is different from the intention of planning body. Finally, PI efforts does not always build consensus, and rather sometimes leads to a situation that escalates conflicts.

2.3 Conventional PI
In the conventional government-led plan development process, planning body sets up schedules for plan development, but does not make them available to the public so that they could be changed anytime the situation changes. The planning body provides information and data that support its proposed plan, and sometimes responds to public requests for information, but basically it has the authority to decide which information to disclose. It collects public input via questionnaires about the plan that it developed, and often responds to the input by claiming its own views. Then the planning body claims it had responded to the public input and concludes the communication. In public hearings or briefing sessions, it is very common that both the government and citizens repeat their own claims, and the communication remains one-way. And before any consensus is made among stakeholders, the plan goes through statutory procedure and gets enacted.

Many citizens express concerns about impacts of public works projects. For example, residents nearby a road construction sites often express their concerns. The planning body responds to those comments by either claiming that the impact that they are concerned about are not large enough to be questioned, or claiming that the result of the environmental impact assessment (EIA) process indicates that the estimated impact would be within the legal standards. And it accepts no further discussion.
The characteristics of the dialogues stated above between the planning body and citizens are summarized as follows. We define the plan development process based on the dialogues characterized by the following features as conventional PI.

a) The entire planning process is led by planning body.

b) The supporting data for its plan is asserted by planning body.

c) Public comments are often responded by claiming supporting data for a plan.

d) Any impacts of the project below legal standards are not discussed.

These characteristics do not pose problems as a form of administrative process. However, we would like to establish the concept of substantive PI as opposed to conventional PI in order to explore causes that conventional type of PI often faces problems in reality.

2.4 Problems of Conventional PI
This section examines how conventional PI is implemented and the psychological effect of conventional PI on citizens would lead to problems. First, the planning body announces a plan which could be a surprise to the citizens (described above as a feature of conventional PI: a). Second, the planning body claims basis for the plan (feature of conventional PI: b). Citizens, many of who are concerned about the adverse impact of the plan, repeatedly hear the explanation that the impact would not be large enough to be worried about, and their concerns are not eased (feature of conventional PI: c). The citizens feel that their concerns are ignored and they are treated unfairly. Furthermore, as their request for preliminary survey on and measures for the type and magnitude of the impacts are not fully responded (feature of conventional PI: d), they could develop distrust and sense of unfairness about the procedure.

After such a procedure, the public grows a backlash against the plan and distrust in the planning body, as they feel that the procedure is carried out solely by decisions of planning bodies and they are deprived of opportunities to express opinions about plans. Some may also doubt that the environmental impact assessment might be manipulated so that the planning body reaches the conclusion that the impacts are below the legal standards. Such public backlash and distrust could escalate into a broad opposition campaign against public works in general. In this way, conventional PI often comes with problems such as public opposition and inherent factor that could bring about a needlessly strong opposition campaign.

Many of the cases, in which plaintiffs argue the illegality of impacts of public works projects and seek compensation for the impact and suspension of projects, are dismissed for the reason that the estimated impact does not exceed the maximum permissible level (MPL). These cases clearly demonstrate that disputes could arise for the impact that is not legally compensated, that is, legal impacts. The question is not about the range of compensation, but whether or not it is an appropriate process when concerns about the impact of public works is disregarded or deliberately ignored.

2.5 Circumstances of Planning Body
Next, this section examines the motives of planning body to lean towards conventional PI. The planning body only has to hold briefing sessions and public hearings to listen to the public input according to necessity in order to meet legal requirements. Even though conventional PI has possibility to bring about disputes, if the law requires nothing more than conventional PI, it may well put priority on going ahead with the procedures that are right in front of them.
How about concerns over impact below the maximum permissible level (MPL)? Even if the authority wants to take measures to alleviate the impacts that are well below the legal limit, it is difficult to make the financial authority understand the reason for the expenditure. Besides, the government agencies are able to take measures only within the limit of their jurisdiction, which makes it even more difficult for them to deal with impacts of public works projects. These might be the reasons for the planning body to avoid discussing any other issues than legal planning procedures.

Besides, the planning body might be anxious that if it deals with every issue attentively, that might prolong the discussion and worsen disputes. Therefore, it tries not to mention any other issues than compensation beyond legal standards. In this way, conventional PI could induce the planning body to respond to the public defensively, which ends up drawing even stronger resentment against it from the public.

3. IMPLICATIONS OF PRIOR STUDIES

3.1 Implications of Social Psychology

Study on procedural justice in the field of Social Psychology could be a good reference in order to explore procedural issues and solutions of PI. Lind and Tyler (1988) reviewed prior studies on procedural justice and put together results of various laboratory experiments and field studies. Lind and Tyler’s notions cover similar psychological response of citizens often seen in conventional PI process. According to Lind and Tyler (1988), a process that provides citizens with opportunities to voice their opinions is considered to be fair. High process-control of citizens would enhance perceived procedural justice. Low procedural justice could be a cause of disputes. Finally, it has a great impact on perceived procedural justice how stakeholders are treated in the process.

In this context, it should be safe to state that the citizen’s psychology in conventional PI is considered a desire for procedural justice, and unsatisfied desire could be a cause of disputes. In other words, conventional PI has a problem of procedural justice.

Process-control is of particular importance among Lind and Tyler’s procedural justice discussion. Since laboratory experiments by Walker, et al. (1974) has discovered that perceived process-control has an influence on perceived procedural justice, it has received a great deal of attention from many researchers. They concluded that their findings are supportive of both noninstrumental and instrumental explanations of the process control effect. Noninstrumental explanation is that process-control not only satisfies desire for fair results, but also improves perceived procedural justice through opportunities to voice their opinions. However, some studies indicate that the value of voice is not universal. For example, Tyler (1987) points out that the effect of process-control depends upon whether or not the stakeholders are assured that decision-makers will consider what have been said. Instrumental explanation is not only higher procedural justice achieved by involvement in the process, but it is that stakeholders take process-control to be fair as a means to obtain individual benefits.

Noninstrumental effect of process-control would improve procedural justice by providing sufficient opportunities for citizens to voice their opinions and have decision-makers fully consider the citizen’s comments. However, it is not possible for decision-makers to take what exactly citizens said and put them directly into plans. Emotional remarks or positional
statement are difficult to directly reflect into policies. Besides, citizens who do not have expertise in technical and legal constraints might claim for things that are unrealistic or impossible.

In order to increase instrumental effect of process-control, that is to say, to take a process, in which it is easy for stakeholders to obtain private benefits, that would cause a problem of prioritizing public goods over private goods, and consequently, reduce public benefits. On the contrary, if process-control is limited in order to secure public benefits, that could cause disputes.

In this way, efforts to improve procedural justice could pose a dilemma of balancing citizens’ interest and emotional claims, and public benefits and technical rationality. This is considered the principal factor that the government is reluctant to implement PI and often fall into conventional PI. The new study of negotiation theory yields valuable clues as to improving procedural justice and securing public good and technical rationality and to meet citizens’ interests, which is discussed in the next section.

3.2 Implications of Negotiation Theory
When there occur trade-offs between public benefits and technical rationality, and citizens’ interests, they are usually settled by political or judicial judgment in the real world. However, since political judgments involve various political factors, which may lack rationality and may not always satisfy citizens’ interests, they face political opposition movements. Judicial settlement also has its challenges. The range of standing doctrine to sue has been very narrow in Japan and it has been difficult for citizens to file lawsuits on public works. Besides, issues in public works projects could not be fought in court until the construction phase, when private properties are imposed with legal restrictions. Even if a lawsuit could be filed, if they fail, the plaintiff’s interests would not be considered in planning. Thus trade-offs between public benefits and technical reasonability, and citizens’ interests have brought about disputes in some cases, and often lead to unfortunate lose-lose results.

Fisher and Ury (1982) proposed resolving disputes based on not position but interest. Position is stated demand, pretensions, or claims, and is “something the speaker decided upon.” For example, if someone says “I am opposed to the road construction,” that is an expression of his position. Interest is “the silent movers behind the hubbub of positions.” The true interest of a person who expresses opposition against road construction might be a concern over loss of a community park, environmental degradation or safety concern due to increase in traffic. These concerns are about some aspects of the impact of the road, and are not definite reasons to reject the road itself. It might be able to solve those concerns if some measures are taken for them. As Fisher and Ury states, there are two major reasons why interest-based communication works better than positional bargaining does. First, there are usually several ways to meet any interests. Second, people have much more common interests than conflicting positions behind the stated positions.

Mary Parker Follett, a researcher whose works were remarkable in the 1920s and 1930s, proposed a notion that could be considered an original model of the interest-based communication proposed by Fisher and Ury. Follett states, “there are three main ways of dealing with conflict: domination, compromise and integration.” Integration is the best way to deal with conflict, which integrates two desires and explores “a way in which neither side has to sacrifice anything.” Follett illustrates integration by the following anecdote. “In the Harvard Library one day, in one of the smaller rooms, someone wanted the window open, I
wanted it shut. We opened the window in the next room, where no one was sitting. This was not a compromise because there was no curtailing of desire; we both got what we really wanted. For I did not want a closed room, I simply did not want the north wind to blow directly on me; likewise the other occupant did not want that particular window open, he merely wanted more air in the room.”

As discussed in this section, the theory of interest-based dispute resolution suggests that it expands the possibility of win-win solutions by focusing on interests hidden behind stated positions and overcome trade-offs. It is also said that dispute resolution through communication surpasses political or judicial settlement in rationality, fairness, and stability (Susskind et al., 1999). The next section discusses about policies such as mitigation to reduce adverse impacts on surrounding residents.

3.3 Issues in the Perspective of Welfare Economics
Adverse impact caused from implementation and operation of the public works projects, such as community severance, landscape destruction, air pollution and noise due to construction and usage of transportation facilities, the impact could be called technological externality (externality, thereafter).

Figure 1-1 shows the relation between external cost caused by a transportation facility construction (road facility in this case) by the government and social surplus, based on welfare economics (e.g. Pigou, 1920). When demand for the road transportation is measured on the horizontal axis and its price is measured on the vertical axis, it produces the demand curve of road transportation, which is, social marginal benefit (SMB) curve of road investment, and the supply curve of road investment, which is the private marginal cost (PMC) curve. When a road construction causes an externality, the total cost which the entire society bear, including the external cost caused by the road investment, equals the social marginal cost (SMC) curve. When a road is constructed without consideration on externality, while the point b represents the market equilibrium, and the externality is the gap between SMC and PMC. Accordingly, the social surplus is the area a-b-c minus the area b-d-f. Therefore, social surplus maximizes at point b, where SMB and SMC balance, which is called social equilibrium. The area A (a-d-c) represents the social surplus at social equilibrium, while the area B (b-d-f) does at market equilibrium. This means that social surplus is decreased at market equilibrium, which is called dead weight loss. Therefore, policies which consider externality are justified.

The theory of welfare economics advocates Pigouvian tax, taxation on the externality to reach the social equilibrium. Figure 1-2 shows the mechanism of a compensation policy, in which the government compensates the affected parties for the external cost by subsidies equivalent to the adverse impact, when it constructs a road facility. The compensation policy shifts the equilibrium up to the point d, social optimum point, and maximizes the social surplus. In reality, it is difficult for governments to make compensation beyond legal requirements. Besides, as Japanese government currently has a very tight fiscal condition, it faces other challenges including difficulty to justify the extra expenditure to financial authority, and to ensure social fairness.
Second best means to cope with the external cost is mitigation of the adverse impact. Mitigation is a means to reduce the impact of social infrastructure development on surrounding environment and ecosystems. A regulation of the Council on Environmental Quality (CEQ) (CEQ Regulations 40 CFR 1508.10) defines mitigation as follows.

a) Avoiding the impact altogether by not taking a certain action or parts of an action.
b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
e) Compensating for the impact by replacing or providing substitute resources or environments.

The concept of adaptation as well as mitigation attracts close attention in recent studies of...
Environmental Economics. For example, when coping with global warming, mitigation is a measure to reduce the amount of emission of CO₂ and other greenhouse gases, whereas adaptation is a measure to change and adapt natural ecosystem and social/economic systems to alleviate the adverse impact of global warming. Integrated measures of both adaptation and mitigation are also proposed. However, in this study, mitigation does not differentiate mitigation and adaptation, and call them mitigation inclusively.

Figure 2 shows the effect of mitigation. Mitigation can be considered as an investment in order to alleviate the impact of externality. Investment on mitigation shifts the cost borne by the government from PMC to PMS. It also reduces the external cost. If the amount of reduced external cost is larger than the investment on mitigation, that would shift the social marginal cost curve from SMC to SMC” and increase social surplus, which justifies the investment on mitigation. Therefore, in theory, effective investment on mitigation and other measures can be expected to bring a profound effect of reduction in externality larger than the amount of investment and increase in social surplus, which is an economic win-win situation.

Finally, it is necessary to note the importance of communication when mitigation measures are implemented to reduce externality. Investments that do not meet the needs and concerns of the residents would not be welcomed. Win-win solution for both the government that serves public good and citizens depends upon the planning body’s capability to accurately understand true interest of the residents affected by public works and to acknowledge public benefit of the area. Communication among all concerned parties is critical in order to achieve the win-win solution. Based on these implications of various fields of research, the next chapter identifies requirements for substantive PI, which brings about win-win results.

4. PROPOSAL FOR SUBSTANTIVE PI

4.1 Need for Substantive PI
Chapter 2 suggested that conventional PI is an obstacle to win-win settlement of disputes, and pointed out its procedural problems. Chapter 3 reviewed past studies, which suggested that it is possible to lead to a win-win solution by involving stakeholders in the process and obtaining public opinions that can be reflected to policies through interest-based communication. It also discussed the possibility of win-win solution of a potential cause of disputes in transportation infrastructure development, namely externality, for both affected parties and the entire society.

PI that overcomes challenges of conventional PI and keeps disputes from arising by collaborative win-win settlements is defined as substantive PI in this study. The requirements for substantive PI are also explored. Next section introduces a concept of successful collaborative PI before examines requirements for substantive PI.

4.2 Public Participation that seeks collaborative problem solving
International Association for Public Participation (IAP2), an NPO that seeks to promote and improve the practice of public participation, developed the IAP2 Public Participation Spectrum (Table 1), which classifies the level of public participation into five groups. Among the five levels, the highest level of public participation that leaves final decision-making to the government is “Collaborate,” which is “to partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.” Tools like charrette and workshops have proven useful for collaborative public
participation. Quite a few case studies can be found that are considered to meet the criteria of collaborative public participation. The process of collaborative public participation starts with identifying people's interest and causes of disputes. It finally seeks to propose plans that would enhance benefits of each party.

Joint fact-finding is another collaborative tool to develop common understanding among stakeholders by sharing data and methodology of analyses in problem solving with highly specialized knowledge and technical issues. (Ehrmann and Stinson, 1999; Suzuki and Yajima, 2005)

Though planning usually leaves the authority of final decision-making to the government, which is the responsible planning body, collaborative public participation draws long-lasting outcomes that lead to win-win settlement by comprehending people’s interest correctly and having much of the outcome adopted in policy decisions.

Table 1 IAP2 Public Participation Spectrum (excerpt)

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<td>Developed by the International Association for Public Participation</td>
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**Increasing Level of Public Impact**

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<th>INFORM</th>
<th>CONSULT</th>
<th>INVOLVE</th>
<th>COLLABORATE</th>
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<td>Public Participation Goals:</td>
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<td>To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.</td>
<td>To obtain public feedback on analysis, alternatives and/or decisions.</td>
<td>To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.</td>
<td>To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.</td>
<td>To place final decision-making in the hands of the public.</td>
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In the North/South Corridor Project, a project of a seven-kilometer expressway that connects junctions of Tomei Expressway and Third Keihin Expressway, substantive PI has been adopted to involve an intensive communication between the planning body and the public. It reflected the interest of the public in more communicative process in developing a draft plan, and relieved the public backlash against the planning process.

In this project, a tunnel alternative had been selected as a draft plan among other alternatives. During the process to reach the selection, PI efforts were introduced to grasp strong interests and concerns over the routes from the wide public, and several alternatives were set as well as selected based on the public interest. It has not been common in Japan to set route alternatives based on public opinions. In selecting a route, an alternative route along the river was avoided due to the public concerns over its environmental impact, and another alternative was avoided due to the public concern about the route cutting through the housing area. As some public was also anxious about the impact of the tunnel entrance on neighboring houses, the route
with a longer tunnel was selected, whose tunnel mouth is located in the area where less impact is expected. By listening to concerns of the public, the planning body was able to seek win-win situation for diverse portions of the public ahead of its decision-making.

Some might say that technical experts could consider such impacts of the plan on neighborhood residents and take measures to avoid them, but it is not a matter of technique, but that of a process. In the project of another portion of the expressway connected to the North/South Expressway, which had been planned with a conventional PI process, the planning body has received a few hundred thousands of negative comments when the final plan was determined, and has been fighting in a lawsuit filed by the residents along the route. It is a stark difference, compared with the North/South Expressway project with substantive PI process, which has received only a few hundreds of negative responses, which is a significantly small number for a project of this size in urban areas. Though this project has already been completed, and therefore, is not perfectly comparable with the ongoing North/South Expressway, the public is seemingly inclined to support the process as well as the selected route of projects with substantive PI process. Comments gathered throughout the process included many that support the communicative process as well as ones that state concerns and interests about the impact of the plan, which makes clear the effect of substantive PI.

Figure 3 Open House (left) and Neighborhood Meeting (right) of North/South Expressway Project

Figure 4 Alternative Routes for the North/South Expressway

4.3 Requirements for Substantive PI
Collaborative PI introduced in the previous section is not just about using the tools such as workshops. Therefore, this study proposes the following four requirements for substantive PI based on the problems caused by conventional PI and prior studies.
a) Process is announced to the public and coordinated with stakeholders collaboratively.
b) Underlying interests of stakeholders that could be causes of disputes is explored through communication.
c) Possibility of win-win solution is explored by responding to interests.
d) Creative win-win solution is explored in a proactive manner, including consideration on external costs.

First requirement above is to improve procedural justice by sharing the planning process with stakeholders.

Second is to enhance perceived procedural justice by understanding interest of stakeholders and potential causes of disputes, and responding to the interest attentively. Moreover, understanding of interest enables the planning body to reflect the collected information into policies, as opposed to just listening to their positional opinions.

Third is to enable the planning body to simultaneously consider both public goods and interest of stakeholders, because interest-based communication makes it possible to explore measures to avoid or alleviate impact of a project and compensatory approach. It also has an effect of avoiding disputes as it makes stakeholders to realize the disadvantages of litigation compared with mitigation.

Fourth is to alleviate external cost by considering possible measures to avoid, relieve, or compensate direct impact, which is also effective in keeping disputes from arising. Besides, the process to understand citizens’ interests to reflect in such measures would help to appropriately respond to the public concerns and increase citizens’ utility.

4.4 Effectiveness of Substantive PI

Substantive PI is expected higher effectiveness than conventional PI in the aspects of procedure, psychology and substance.

In procedural aspect, substantive PI shortens the period from planning through construction of a project. Though conventional PI often appears to be more effective since the planning body leads the entire process, there are many cases of conventional PI, which have ended up in litigation and taken longer time, as described in chapter 2. In contrast, though substantive PI appears to take longer time because it goes through a collaborative planning process with the government and the public, often takes shorter time and smoother processes in actual cases. For example, Tsukada et al. (2006) conducted interview surveys about PI case studies in Japan, and proved that the cases that had adopted substantive PI and met the conditions listed in 4.3 taken shorter period in planning process than those that had not adopted substantive PI.

In psychological aspect, substantive PI is expected to make the public feel that procedural justice is served since citizens participate in the planning process. If the sense of procedural justice is improved, it is also expected to produce such effects as speeding up the entire process of projects, and improving the public satisfaction with outcomes.

In the aspect of substance, which is the resulting plan per se, substantive PI improves the effectiveness through such measures as mitigation, as described in 3.3. The purpose of substantive PI is to obtain win-win outcome. If the substantive PI is appropriately implemented to grasp and reflect the local residents’ true interest into plans and mitigation measures, it is expected to reduce external cost that exceeds the investment, better serve
social justice, and consequently, improve the effectiveness of its substance.

5. CONCLUDING REMARKS

5.1 Conclusion
This study pointed out problems of conventional PI and proposed requirements for substantive PI. Chapter 2 discussed that conventional PI has problems of procedural justice and leaves public concern over plan’s negative impact as a cause of dispute. Chapter 3 presented that process-control is critical to improve procedural justice and that interest-based communication has a possibility of obtaining input that are able to be reflected in policies and leading to a win-win settlement of disputes. It also referred to a means to cope with negative impact of transportation infrastructure development from a welfare-economic standpoint, which deals with the impact as an externality and suggests a means to relieve the externality and take mitigation measures to increase social surplus. Chapter 4 proposed the following four requirements for substantive PI based on the lessons learned from previous chapters; 1) Fix the process and make it available to the public first; 2) Explore underlying interest through communication; 3) Respond to interest and explore the possibility of win-win solution; and 4) Provide options to reduce external cost to compensate for adverse impacts.

While conventional PI has a defensive stance that focuses on legitimacy of a planning body and sticks to its own claims, substantive PI has more thoughtful stance to pay attention to the way citizens recognize a problem and explore solutions.

The role of planning bodies in public works has been changed for better reflection of citizens’ true needs in plans. Eastern Asian countries including South Korea and China have also been making efforts to adopt PI in their planning processes, and they are expected to change administrative cultures for the adoption, just like that of the United States, an advanced nation in the field, whose administration has become more customer-oriented over time.

Collaborative public participation tools including workshops have been adopted in relatively small-scale projects including town building and formulation of policies that do not involve concrete interests such as master plans. However, they should also be an effective tool in PI of public works projects such as road development, where distrust in the government could be an obstacle. It is necessary to change the negative image associated with road development into positive by coping with impact of project on and improving the environment of the areas around project sites. They should also contribute to facilitation of smooth implementation of the projects by preventing disputes. As conventional PI could possibly encourage disputes, substantive PI needs to be adopted in a proactive manner.

5.2 Further Research
There are several issues to be solved in order to adopt substantive PI in Japan. Since tax revenues that are designated and reserved for road development and improvement cannot be spent for environmental improvement around the planned road sites, systems need to be developed to enable agencies to coordinate jurisdictions and financial sources accordingly. It is also required to develop tools to systematically measure impacts of projects on surrounding areas, such as community impact assessment. It is also necessary to develop communication techniques to obtain true interest of citizens and facilitation techniques to support the communication, and to educate human resources with such skills.
Since cooperation between road-planning body and local governments around project sites is critical, coordination system among government agencies; such as partnering, will also be required.

This study focused on procedural justice of public works planning. Other potential effects of substantive PI are 1) risk-communication in decision-making process under certain uncertainties; and 2) ensuring appropriate range of administrative discretion through negotiation process with stakeholders, both of which are to be further discussed in future studies.

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