

# **A basic research on comprehensive evaluation of public works in Kochi city**

**Taichiro Baba and Tsunemi Watanabe**  
**Kochi University of Technology**

Due to drastic cut in governmental construction investment and strict enforcement of anti-monopoly law, dango, a complementary and rotational bidding is disappearing, and bidding competition is becoming very cutthroat in many public works. To protect the quality of works and so called dumping bidding, the ministry of land, infrastructure and transport is introducing the comprehensive evaluation method in bidding, which is to evaluate not only price but also technical items such as past performance and a concise construction plan. Some local governments start introducing this approach in bidding. However, there is a concern about this method particular for projects ordered by local governments. Some of those projects do not necessarily require advanced technology; thus, it may be difficult to make difference in evaluation of construction planning among bidders. Items in which scores of each contractor may be rated differently are experience of the same type of construction and existence of qualified engineers. These items seem to evaluate “quality,” technical capability of each contractor. However, there is also criticism that larger scaled contractors can take advantage of these evaluation items because generally they have more experience of implementing similar works and more qualified engineers. This criticism raises another fundamental question: what is the role of small-scaled contractor who do not necessarily pursue enlargement of the company. Thus, the purposes of this research are to discuss the role and importance of the local small-scaled contractor and to discuss an image of the comprehensive evaluation of Kochi City. It is recognized that the regional contribution activity is important to support peoples’ lives in the region. The local small-scale contractor has done these various kinds of regional contribution activities through regardless of volunteer works or contracted construction works. Regional characteristics which the local small-scale contractor grasps seem to become important items to do construction works smoothly in the region. It is considered that the contribution activity of the local small contractor should be evaluated all together with the technical capability as the zest to the local community development by the contractor.

**Key words** Kochi City, small-sized contractor, local and regional contribution activity, regional characteristic

## **1. BACKGROUND AND OBJECTIVES**

Due to drastic cut in governmental construction investment and strict enforcement of anti-monopoly law, dango, a complementary and rotational bidding is disappearing, and bidding competition is becoming very cutthroat in many public works. To

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However, there is a concern about this method particular for projects ordered by local governments. Some of those projects do not necessarily require advanced technology; thus, it may be difficult to make difference in evaluation of construction planning among bidders. Items in which scores of each contractor may be rated differently are experience of the same type of construction and existence of qualified engineers. These items seem to evaluate “quality,” technical capability of each contractor. However, there is also criticism that larger scaled contractors can take advantage of these evaluation items because generally they have more experience of implementing similar works and more qualified engineers.

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Thus, the purposes of this research are to discuss the role and importance of the local small-scaled contractor and to discuss an image of the comprehensive evaluation of Kochi City.

## **2. CURRENT SITUATIONS IN KOCHI CITY**

We studied items of the comprehensive evaluation method, which was tested on a trial basis in 2007 in Kochi City.

### **2.1 Evaluation items**

The difference rather appears by the construction then but the evaluation item of current Kochi City becomes as follows.

It is said that the company with the highest ratio of the technical points to the bid price is awarded. Technical points consist of the following items:

1. The results of the concerned construction and the same type of construction,
2. Performance scores of completed construction projects marked by the public client for a fixed period of time,
3. Acquisition of ISO certificate, the area volunteer, contract agreement to support the region in case of the disaster and so on,
4. Experience of construction, learning record, and qualification of the project engineer, and
5. Contents of the construction plan of the construction project

### **2.2 The fairness of evaluation item**

It is found that there are problems by the hearing interviews with practitioners. The evaluation is largely influenced with the management scale of the contractor. There is a view that the fairness of the evaluation may be insufficient.

Many of construction projects ordered by Kochi prefecture are executed by local small-scaled contractors. In order to discuss how the comprehensive evaluation method should be designed, it is useful to clarify the role and significance of these contractors.

In the next sections, an attempt is made to discuss them from the viewpoint of region, construction risks, and people.

## **3 OBSERVATION FROM THE VIEWPOINTS OF THE REGION**

### **3.1 The regional contribution activity**

We define the regional contribution activity as “the activity that maintains and activates the life and the environment in the region.”

Their examples are given as follows:

1. Disaster control
  - Agreement of disaster damage reduction
  - Post disaster restoration
2. Disaster prevention equipment maintenance
  - Installation of fire extinguisher tool
3. Environmental preservation activity
  - Rebuilding of garbage depository of town
  - Cleaning of town
4. Cultural activity
  - Schoolyard maintenance of elementary school
  - Cooperation for internship

Regarding the effects of the regional contribution activity, it is said that “A good relationship between the contractor and the region can be developed. Moreover, the contractor can understand the construction knowhow in the region.”

### 3.2 An example of post disaster restoration

~Niigata Tyuetsuoki earthquake~

The ministry of land, infrastructure, and transport studied activities of post disaster restoration done by contractors at the time of Niigata Prefecture Tyuetsuoki earthquake in 2007. It was found that 195 contractors were local contractors among 309 contractors which did restoring activities. In addition, 90 contractors started their activities within 2 hours after the earthquake occurred. Among them, 78 contractors were local firms.

In the post earthquake restoration activity, the early stage support is the most important activity to save the life of resident. Thus, it is necessary to do the disaster restoration as early as possible. Results of this survey hint that there is a big potential in the local contractor.

## 4. OBSERVATION FROM THE VIEWPOINTS OF CONSTRUCTION RISK

Here we focus on construction accidents which are one of the construction risks. The construction accident is classified into public accident and an accident of the person concerned. First, we focus on a public accident.

### 4.1 Public damage accident

Among public accidents, 79% of accidents are car accidents, and 16% of fall accidents are bicycle and pedestrian accidents.

They account for 95% of the whole at these two. This graph shows causes of public accidents. It is conjectured that some of causes with orange boxes, the failure of the traffic induction member and the failure of the pedestrian road were created by contractors. There seems a possibility to reduce many of them by understanding regional characteristics.

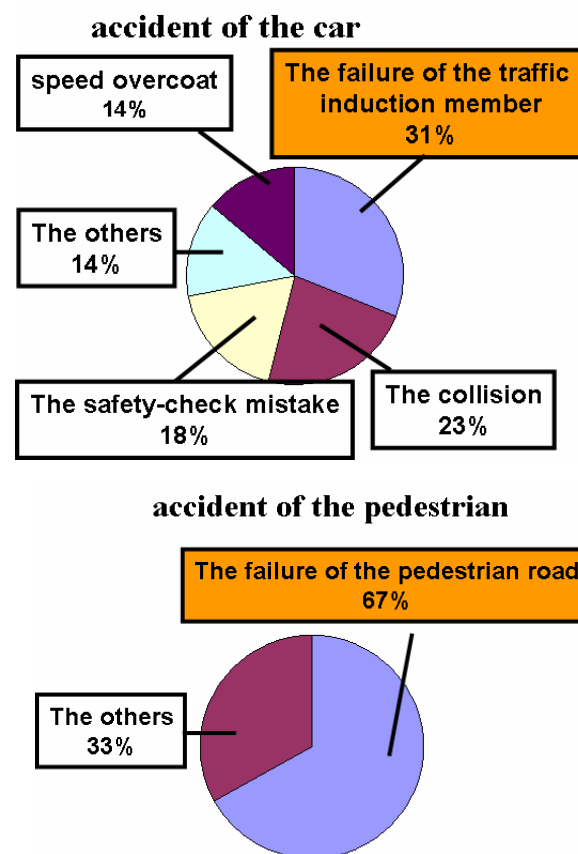


Figure 1 Rates of accident causes  
(Source: The Ministry of Land, Infrastructure and Transport)

## 4.2 Labor accident

The next example is labor accident, a collapse accident in soil cutting construction in Nagano City. The construction was soil cutting, and a contractor outside of Nagano city constructed. It was said that the soil collapse occurred during construction as the contractor was not familiar with safe construction technique incorporating local conditions. There is a high possibility that the accident would have not occurred if the local contractor had construction works who was familiar with the local soil conditions.

## 5 OBSERVATION FROM THE VIEWPOINTS OF RESIDENTS

### The business scale and necessary communication with the resident

Figure 2 show the relationship between business scale and necessity communication with the resident.

It was understood that the smaller construction project it is, the more direct communication is needed with the local residents. Kochi City orders many small scaled projects. In those projects, direct communication is necessary with the resident in the region.

### 5.2 The relation between the regional communication and the construction

It was found that the direct communication with the region is necessary to execute the small-scale construction in the district. The contractor who grasps regional characteristics and can take the direct communication with local resident is the contractor who operates locally.

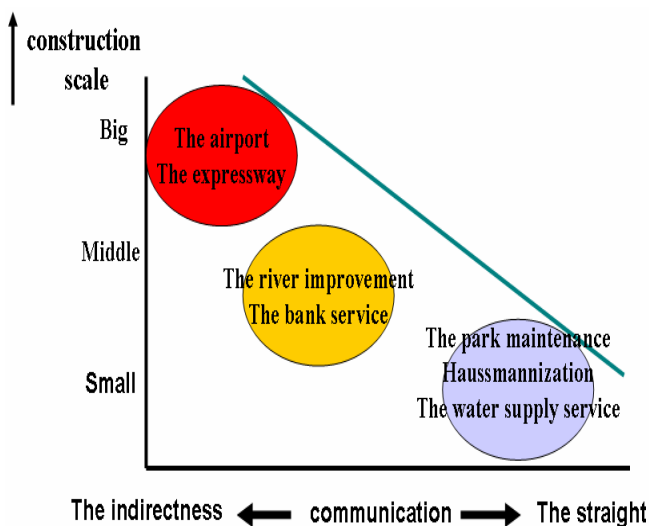


Figure 2. Construction scale and necessary communication with the resident

(Source: Ministry of land, infrastructure, and transport)

The local construction contractor is contributing to the region in a wide range of manner such as post disaster restoration measure, the disaster recovery, the environmental protection, and the cultural promotion. It is possible to say that these area contribution activities are important for contractors to understand characteristics and construction knowhow in the region and to do works smoothly. Moreover, through such activities, the opportunities are created for the contractor and the resident to communicate in the community. The authors assume that execution of projects by local contractors leads to smooth construction.

### 5.3 Questionnaire to residents

Next, we did a questionnaire survey to analyze the viewpoint of residents. The minimum number of samples is determined to be 96 using the numerical formula of the sampling error. Therefore, we asked 96 residents living in Eboshi-district in Kochi city. In this district water supply pipes are being installed during questionnaire survey. Thus, we selected this

district by judging that these people have a clear image towards public works.

Questions and their answers are given as follows.

Question1: What discomfort do you feel during construction in your area?

Traffic jam	34
Noise	26
Danger	9
Dust	8
Dirt	8
Shortage of guard	7
Insufficient communication	8
Long construction period	5
Vibration	4
No specific discomfort	10

Question2: Do you want local contractors to do construction works?

Yes	83
Not really	13

Question3: What are reasons for your answer?

**For “Yes”**

Sense of assurance	41
Economic activation	26
Local autonomy	14
Quick response to problems	11
Smooth construction	13
For not a particular reason	5

**For “Not really”**

Technical capability and cost saving	5
Need of competition	5
Any contractor is fine if a good work is conducted.	5

More than 80% of people want local contractors to do works. It is found that many residents have a good image towards the local contractors.

## 6. CONCLUDING REMARKS

It is recognized that the regional contribution activity is important to support peoples’ lives in the region. The local small-scale contractor has done these various kinds of regional contribution activities through regardless of volunteer works or contracted construction works.

Regional characteristics which the local small-scale contractor grasps seem to become important items to do construction works smoothly in the region.

It is considered that the contribution activity of the local small contractor should be evaluated all together with the technical capability as the zest to the local community development by the contractor.

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