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## **Safety Concepts in Japanese Building Industry**

Concepts de sécurité dans l'industrie japonaise de la construction

Sicherheits-Konzepte in der japanischen Bauindustrie

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### **SUMMARY**

In spite of steady increase in construction investment, Japan's fatality at construction work has shown remarkable decrease after 1974 – 75. Another visible change is the fact that Japanese construction industry became quite safety-conscious. Administrative measures, the author believes, must have been effective in improving the safety at work.

### **RESUME**

En dépit de l'accroissement constant des investissements dans la construction au Japon, le nombre d'accidents mortels sur les chantiers a diminué de façon remarquable après 1974 – 75. Un autre changement visible est le fait que l'industrie japonaise de la construction a mieux pris conscience de ce problème de la sécurité. L'auteur croit que des mesures administratives ont été efficaces dans l'amélioration de la sécurité sur le lieu de travail.

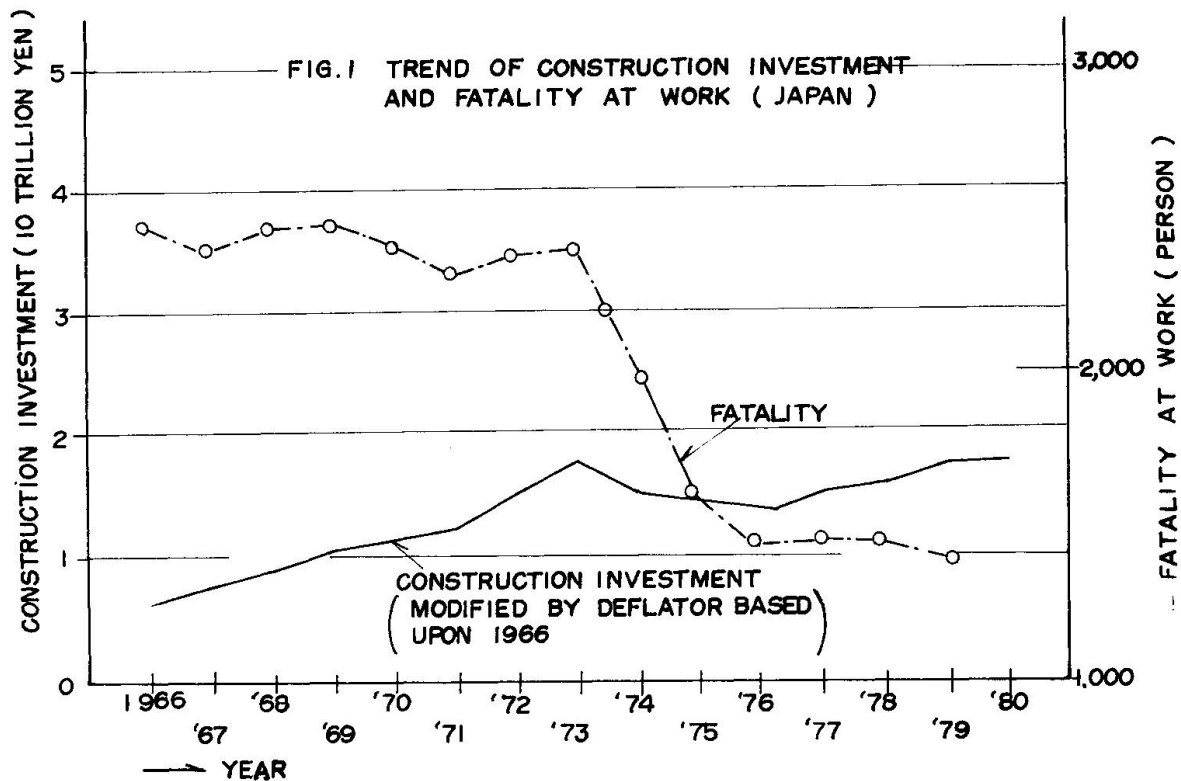
### **ZUSAMMENFASSUNG**

Trotz ständigem Wachstum der Bauinvestitionen sind in Japan nach 1974 – 75 die tödlichen Unfälle bei Bauarbeiten beträchtlich zurückgegangen. Eine weitere sichtbare Veränderung ist, dass Japans Bauindustrie durchwegs sicherheitsbewusster wurde. Administrative Massnahmen, so denkt der Autor, waren wirkungsvoll bei der Verbesserung der Arbeitssicherheit auf den Baustellen.



1. Today, Japanese construction industry is keenly conscious of safety at work, and 'safety first' is considered as the starting point of all job planning in construction. Even in Japan's construction industry, probably until early 1960s, there had been such thinking as 'accident-norms', which according to Prof. Sikkel, prevails in European construction industry. How the transition of safety-concepts took place in Japanese construction industry is worth studying.

2. Fig. 1 shows the trend of fatality at work together with construction investment in Japan from 1966-1980. The fatality at work has shown substantial decrease from 2400 in 1973 to 1451 in 1976, and has stayed at this low fatality level since then. Construction investment has shown steady increase during these years, even considering the inflationary factors.



3. There are two probable factors in bringing about the improvement of fatality at work in Japanese construction industry. One is the enactment of "Industrial Safety and Health Law" in 1972. Based on this law, many government ordinances and ministerial ordinances were enacted to ensure the safety at construction work.

4. The other is the disciplinary action taken by the Ministry of Construction against the contractor responsible for accident during construction work.

Japanese Ministry of Construction is in charge of administration over the construction industry, while it is an owner of many public works. It also subsidizes local governments for their public works. Consequently the policies on executing public works determined by MOC are mostly adopted by the public corporations and authorities under the control of MOC as well as local governments.

MOC is the biggest owner of public works in Japan, and executes its works through nine Regional Construction Bureaus and other agencies located all over Japan. Because there are too many projects to be contracted every year, the MOC Agencies omit the prequalification procedure at every project, and instead renew the registration of prospective contractors every other year. At the renewal of registration, contractors have to submit documents indicating their financial capabilities as well as their technical abilities and experiences based upon the latest data. With these materials, the MOC Agencies classify prospective contractors into several grades. When there is a project for bidding, the MOC Agency selects certain number of qualified contractors in the suitable grade among the registered contractors and invites them for competitive bidding. This is the usual practice in the public works projects of MOC.

When an accident happens during construction and is judged to be attributable to the poor management of the contractor on safety, the MOC Agency suspends the qualification of the responsible contractor for certain period according to the rule shown in Annex 1. As seen in the rule, this disciplinary measure is applied to the accidents in works of other owners than that MOC Agency. Other local governments follow the MOC Agencies in taking similar disciplinary actions.

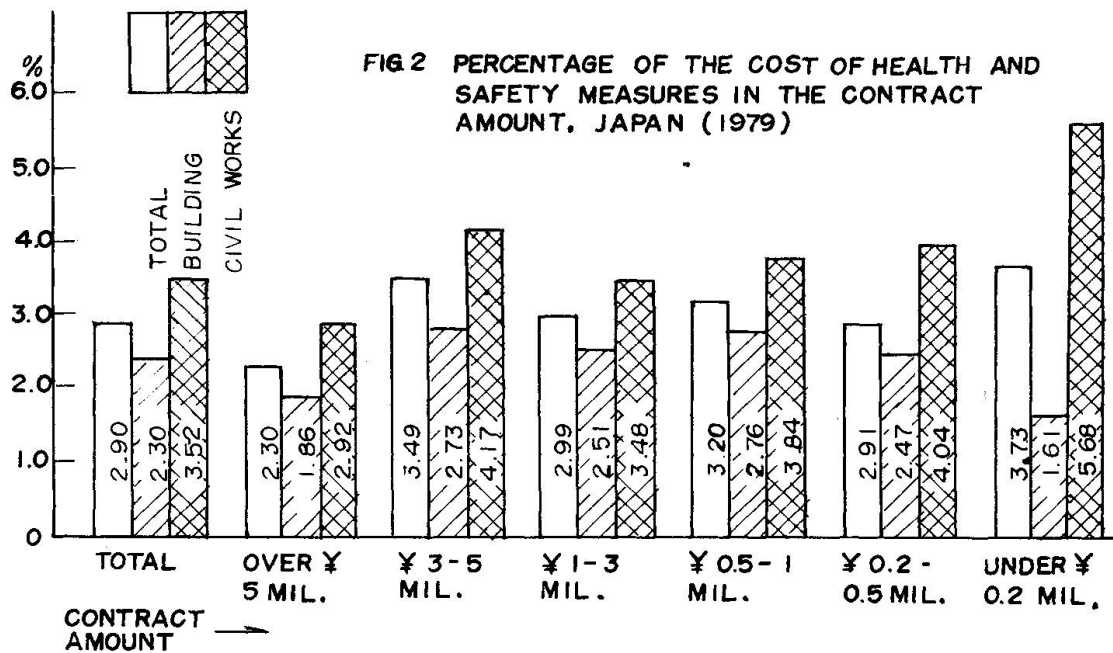
Naturally the contractor in question loses many chances to participate in biddings for that suspended period, and thus may suffer the loss of expected profits. It is very difficult to estimate this kind of economic losses incurred by the temporary disqualification, but generally it is enormous.

5. Because enormous amount of economic losses is incurred by accident during construction work, Japanese building industry is spending substantial expenses for health and safety measures. According to the survey conducted by the Ministry of Labor in 1979, average cost for health and safety measures amount to 2.9 % of the total amount of contract. (Fig. 2) This is quite substantial



amount.

In the light of increasing trend of the costs for health and safety measures, Japanese building industry has requested owners to set up an independent item for the costs for health and safety measures. This request has not yet granted generally, but some company of public utilities created this item answering the request.



6. The above-mentioned disciplinary action by the Ministry of Construction seems to be very effective as an external force to promote improvement of safety management at work.

## Appendix 1

Temporary Disqualification of Registered contractor Responsible for Accident during Construction Work by Regional Construction Bureaus or Other Agencies, Ministry of Construction (hereinafter called 'the MOC Agencies')

enacted on 10th Sept., 1977

1. When a contractor had an accident due to his poor management on safety in the execution of work of the MOC Agency, causing

- a. fatality, many injuries or property damage to the public ... 3 - 9 months
- b. injury or property damage to the public ... 1 - 6 months
- c. fatality or injury to the workers concerned ... 1 - 6 months

2. When a contractor had a very serious accident due to his poor management on safety in the execution of work of other MOC Agency, causing

- a. fatality, injury or property damages to the public ... 2 - 5 months
- b. fatality or injury to the workers concerned ... 1 - 3 months

3. When a contractor had a serious accident due to his poor management on safety in the execution of work of other owner in the area of the jurisdiction of the MOC Agency, causing

- a. fatality, injury or property damage to the public, and
  - i) the owner was a public agency ... 1 - 3 months
  - ii) the owner was not a public agency ... 1 month
- b. fatality or injury to the workers concerned, and
  - i) the owner was a public agency ... 1 - 2 months
  - ii) the owner was not a public agency ... 1 month

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