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three questions of great importance for the construction industry

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2. Most important problems in the future, from a Dutch point of view Three questions of great importance for the construction industry

1. How to manage the decrease in engineering and construction work?

Production will continue to fall dramatically in the Netherlands in the next 5 – 10 years:

- housing will go down by 20 – 25 %
- infrastructure works will go down by 25 – 30 %
- big public works are nearly coming to a standstill

2. How to solve the financing problem in housing?

In the Netherlands, the government has a social housing programme (presently 110000 houses) and has, at the same time, financial deficit in its budget. It is very difficult, if not impossible, to pay back the government's investment. Furthermore, it seems that the income of the Dutch worker will decrease by 5 – 10 % in the coming years.

3. How can contractors and consultants develop activities in other countries?

When contractors and consultants find an opportunity for a job abroad, it will often be in developing countries. But competition will be very hard with colleagues from all over the world. It must be remembered that more developing countries have their own financial problems too!

Consequences of these developments

1. There is also in the Netherlands a high rate of unemployment, at present about 15 % for the whole country. However, in the construction industry the situation is worse, the unemployment rate being around:
 - 30 % in the contractors' firms
 - 20 % in architecture
 - 15 % in consulting engineering
2. The government has also started a programme reducing the professional engineers in government offices at a rate 2 – 3 % per annum, and this for the next 5 years.
3. There are also less government funds for the universities. For instance at the Department of Architecture of the University of Technology of Eindhoven, the reduction in the personnel will be 20 % within the next 4 years.

Search for a solution

As a reaction to the developments described above, much research has been carried out in analysing possible future developments. Some studies have been carried out by the author, on his own or as a chairman of a research group. They are mentioned hereafter:

1. Influences of technological developments on the possibilities of construction companies, in the coming 15 years. This study was completed in 1979 and describes the period 1975 – 1990.

2. Future scenarios of social and economic developments and their influence on the design and construction of housing facilities. Three extreme scenarios have been considered:

- a) Re-structuring and regaining economy and trade
- b) Defining lower targets in economics and better selection of these targets
- c) Frustration and conflicts

The first two scenarios are based on an agreement between social partners in a future society, whilst the third one shows total disagreement between the social partners. The research in this programme aims at finding design and construction methods satisfying one or more of these three scenarios.

One report has been published in 1983 and two reports will be available in Fall 1984.

3. Prospects for the future on how to handle new forms of craftsmanship in industry in general, and in the construction industry in particular. Two reports dealing with this problem will be published in Fall 1984. Starting from a new definition of craftsmanship, which connects skills and autonomy with the quality of work, the influences of technological changes on the working conditions will be described. The use of micro-electronics gives possibilities for renewed creativity within new working context. In this respect it will also be of great influence on the broad field of craftsmanship. New forms of work, in which there will be more possibilities for worker initiatives on the way of working, the use of equipment etc., the solving of problems will become feasible in the near future.

4. Productivity in the building industry

The research considers, over the last 25 years, the increase or decrease of the productivity in the construction industry. A report was published in 1983. The author calls it a «chain of productivities» which depends on the way partners as well as different steps in the construction process are considered. There is a lot of misunderstanding about definition of construction productivity. Considering the whole engineering activity and process, from concept to operation, it seems that productivity is declining. Looking at construction sites, constructions methods and management techniques, it appears that productivity is increasing at a high rate. This means that within the whole process there is a conflict between the different kinds of productivity. An interesting question remains: for whom, i.e. for which partner is the increasing productivity of benefit? Is it used to get better results on the company's effort? Or is it used to survive only? To survive in a difficult market?

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