

Quality Control and Quality Assurance in Korea*

Eui-Cheol Hwang**

1. Historical Review of QC in Korea

(1) Initial period: 1957-1961

In 1957 Korea Productivity Center was formally established for the specific purpose of rendering technical and managerial assistance to local industries, in an attempt to increase productivity and lower costs. It also aimed to raise the standard of living and to increase the income of everyone and to provide up-to-date management technique in order to obtain "better quality" and "lower cost", "more profit" and "higher wages". All of these were regarded as important to make Korean industry self-sufficient. Besides the specialists of this field in KPC foreign specialists deputed under the APO programmes were also participated in the Quality Control Programme in Korea. During this period, seminars and lectures in the field of QC were held to train the technicians as well as management personnels in the country.

(2) Promoting period: 1962-1966

In this period, annually about 40 factories were chosen by the Government (MCI) and assisted for carrying out QC programme as demonstration project. Besides, in-plant training classes were held at each factory. At the same time IE was also introduced to Korean industry by the ILO expert under the UNDP-Special Fund Project. Several specialists and engineers were sent to the United States and other countries to receive advanced training of IE under the ILO Fellowship training programme. Other QC engineers were sent to Japan for advanced course sponsored by APO.

On the other hand, the Industrial Standardization Law was enforced in September 1961, and the KS Mark Certification System was officially practiced in 1963.

In 1962, KPC initiated Productivity Awards in Korea and the first award in the field of QC was conferred to a private industrial firm.

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** Professor, Department of Industrial Engineering, Hanyang University

(3) Developing Period: 1967-1972

Rapid development of Korean industry has been made with successful implementation of a series of economic development plans since 1962. Under the sustained growth in economic development various manufacturing industries provided a suitable opportunity of supplying affluent consumer's goods for domestic market as well as took a chance to compete their products in foreign market. Hence the problem of promotion of export industries has been arisen as a most-important target of nation's effort for attaining better economic development. In order to compete successfully in the world market Korean products had to have strong competitive power in both "quality" and "price". At that time quality control has been rapidly introduced into industry as one of the most effective method for attaining this goal.

In an effort to provide export industries with a government policy to make those industries strengthen their competitive power, the Korean Government authorities asked KPC to extend consultation service in the field of quality control to Korean industries and took an action to speed up the work of promoting quality control.

On the other hand the Quality Control Law was enforced in October 1967. The Law can be roughly divided into three parts, specifying 1) Labeling System, 2) Quality Inspection System, and 3) Factory Grading System. The Law was established for the purpose of consumer's protection.

The items designated commodities are decided by authorization of the Minister of Commerce and Industry and the number of items reach 63 in total as of August 1969.

At the end of August, 1969 there were 1,800 persons attended different QC courses, and there were about 120 factories applied QC system in their operation.

(4) Fixing period: 1973 – up to date

Promoter: To further the development of industry, the Industrial Advancement Administration (IAA) was organized in 1973 as an independent organization under the control of the Ministry of Commerce and Industry.

The IAA itself functions as Quality Control Promotion Headquarters with emphasis on a supporting and accelerating quality control in Korea.

While the basic action to improve quality and quality control system has been taken by the industrial companies, it has been received a strong support from IAA. This support was essential to the establishment of principal policies for quality control system and is still highly visible on the QC Circle movement and national QC Circle contest.

Training: In this period, industrial people have much extensively trained in quality control. What is significant is that our training programmes stated at the top of the company and progressed downward until finally the training extended to all of nonsupervisors.

Moreover, the training was given to all company departments and dealt with all aspects of the quality function.

QC System: Prior to 1973, Korean promotion of quality control rests mainly on the practice of techniques of process analysis, process control and inspection etc. I believe it has been a good deal of work for improving quality, but not much for the assurance of quality and design quality.

With this knowledge and experience, the Government and industrial leaders have enforced a systematic way of quality control (what we call this, Total Quality Control). As a quality control system TQC consists of various activities including QC Circle movement to the extent of overall qu-

ality functions in the company.

2. Main Bodies Concerned with the Promotion of QC

To promote quality control over the whole industry and up-grade the product qualities the IAA put forward principal policies. The policies consist of three parts, that are (a) quality control system, (b) consumer protection, and (c) industrial standardization. More details are explained in next.

Consumer Protection Policy

- * Emphasis on the quality inspection of goods and tagging system.
- * Safety control of industrial products
- * Safety control of electric facilities

Industrial Standardization

- * Enforcement and introduction of quality control to firms
- * KS Mark compulsory system
- * After-control of firms authorized to use KS Mark

As a professional society KPC is a one of conspicuous promoter of QC in Korea.

From 1957, when it was founded, KPC sensed the importance of quality to the Korean economy, and was a driving force in developing training courses, conferences, publications, and aid to the successful Korean revolution in product quality.

3. Education and Training in QC

The well-known organizations responsible to carry out QC education and training are Korean Productivity Center and Korean Standards Association.

Many training courses for various levels of staffs, engineers have been held by these organizations.

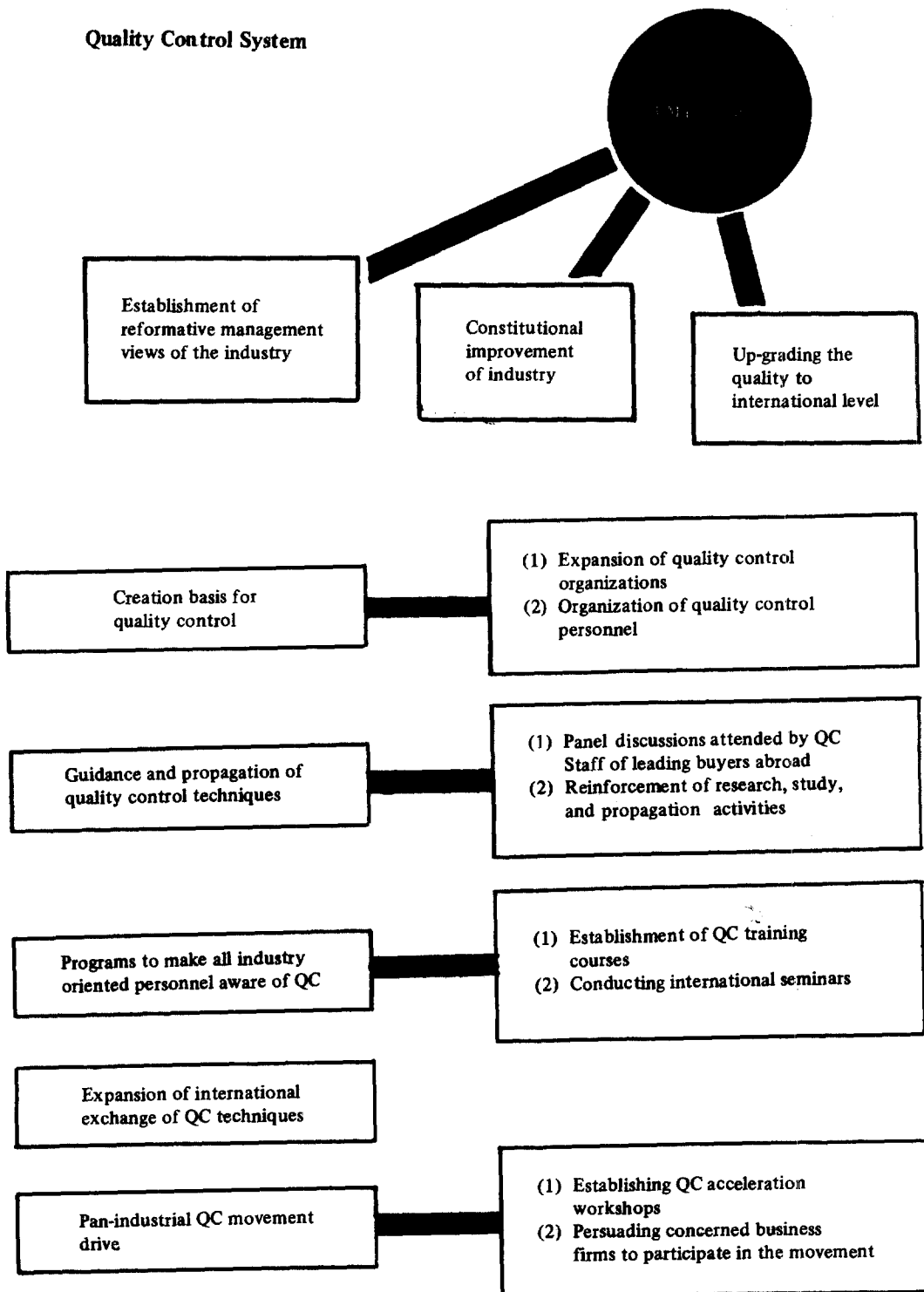
Top Management Course: It consists of 25 hours, is one of major management training programmes. The course is planned to provide a over-all knowledge of QC, that is "planning quality control policy", "QC organization", "control and audit system", etc. The major subjects and hours of this course are as follows.

<u>Subject</u>	<u>Hour</u>
Basic concepts of QC	6
Thought of statistical methods	2
QC function and quality assurance	4
Function of top management in QC	4
Cases in QC	6
Discussion on problems	3
Total	25

Middle Management Training Course: In Korea, the middle managers carry out most of the inter-departmental planning and coordination of quality activities, with only limited use of staff specialists. The Korean do have staff quality specialists, but their role is mainly one of consulting and training rather than

PRINCIPAL POLICIES

Quality Control System



one of direct involvement in planning, project direction, analysis, or coordination.

This course, around 35 hours, has been held to enable middle managers carry out quality activities of the company.

QC Engineer (QC Specialist) Course: Over the ten years, it has been a major QC engineers training programme conducted by KSA. This programme (140-160 hours), as a matter of fact, is a preparatory course for the examination of "QC engineer Certification", authorized by the Government.

Curriculum of the course is divided into five parts, namely (a) Introduction to QC, (b) Laws and Rules pertinent to QC, (c) Statistical methodology, (d) Design experiments, and (e) Production Management.

Basic Course for Foremen and Workers: This course is planned to educate foremen and workers and to give them general knowledge or quality control and quality control techniques, and to serve as a high award for outstanding attainment in the work of QC Circles.

The statistical techniques which provided in this course are mainly (a) Data collection and analysis, (b) Frequency distribution, (c) Pareto analysis, (d) Histogram, (e) Cause and effect analysis and (f) Control chart methods, etc.

Among many difficulties to further promote education top management's indifference is the most remarkably one.

Some of top management of the industrial company do not understand the significance of QC education and necessity of QC practice in their company, these make them even refuse to give necessary support for the implementation of QC.

4. QC Practice in Industries and its Trends

The Korean approach to quality control is a cooperative activities of the Government (IAA), professional societies and industries.

The major contributor has been the Korean Productivity Center and Korean Standards Association. These professional societies, on behalf of the Government have been encouraging the industries in training of personnel from working level to top management in QC, and employing QC specialist in the use of modern statistical quality control methods.

Besides that, the IAA with support of the societies has been trying to reorganize industries for Total Quality System, and to expand QC Circle activities all over the industries. By the end of 1979, the total number of registered QC Circles in Korea are 48,724 teams.

Company Policy for QC: It might say that the company policies for QC in Korea rests mainly on the practice of Total Quality Control (TQC).

The company policies in recent years are generally characterized by:

- a. Extend management techniques and its practice
- b. Adopt "Policy Management System" and fix it in the organization
- c. Designate commodities for which standards are to be established
- d. Establish standards for these "designated commodities"
- e. Set up Quality Assurance System
- f. Strengthen Quality Control Audit System etc.

Worker Motivation Programme: Through the Korean unique QC Circle concept (the spirit of Saemaul Undong) millions of Korean works have received training in quality control methodology, enabling them to participate in solution of quality problem.

Nation-wide or regional QC Circle conferences have been held several times in a year. Here again, there is a twofold purpose: (a) to study the practice prevailing counterparts and (b) to serve as a high award for better achievement in the work of QC Circles.

Quality Assurance: "Quality of product is made into in process, so that quality must be assumed in that very process". This is our philosophy for quality assurance.

TQC system is in fact a QA system. It has been organized with the objective of providing effective quality assurance work in each pertinent department (or process).

5. Trade Promotion and QC

Since modern quality control was introduced in here, the industry has carried on a continuing programme of study of foreign practice in quality control, some of this study has consisted of translation of foreign books and papers for dissemination among industry.

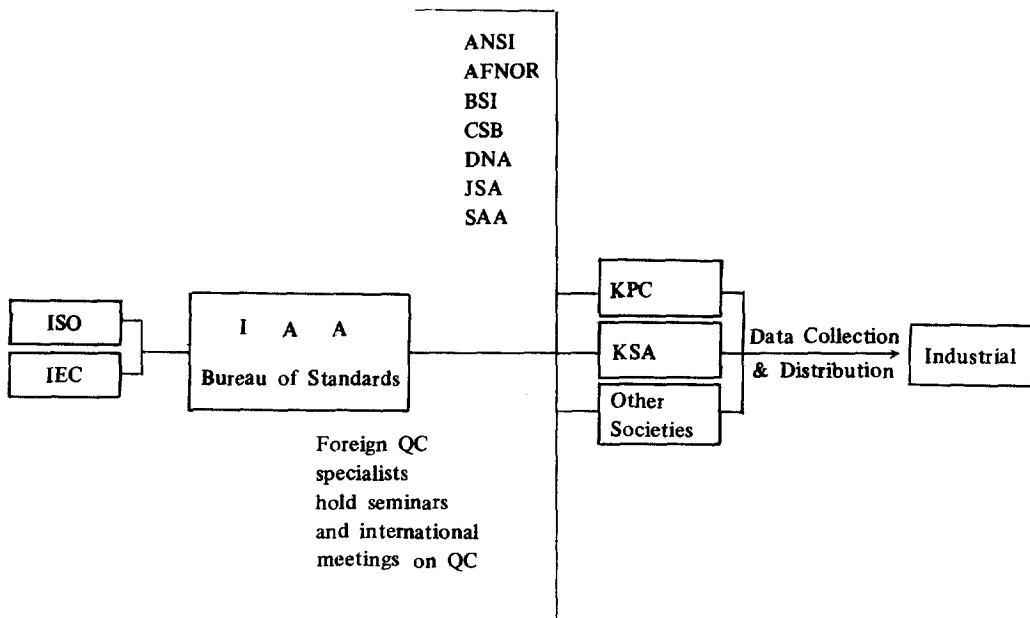
In addition, numerous teams have organized to go abroad to observe practice and/or to collect regulations in foreign countries (or companies) to discuss problems with foreign officials, managers and specialists, and to bring back reports on their findings. The mechanism to get quality information is shown below.

Even though Korea has this channel of information of standard of importing countries some construction companies launched into Arab nations have been faced with difficulties to meet their construction specifications and regulations.

A faint international relationship with them has been caused our construction companies with such difficulties and troubles.

Improving the information channel and effort to frequent exchange of information with Arab nations will be an only solution for this.

International Relationships (Mechanism)



6. International and Regional Cooperation

Despite the variety and quantity of new products that are manufactured and used, increasing numbers of people have become irritated and disenchanted about things that fail.

I believe that "quality is the responsibility of everyone in the enterprise" so that it must be guaranteed in that very process.

"Quality Assurance and Reliability Engineering" are the interesting area to which we would like to render external assistance and cooperation.

Symposium on Quality Assurance, like this, will be very helpful to exchange each other's experience and knowledge pertinent to the overall problems for quality assurance (theory, application, technique, etc.)