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20149

Distr.
LIMITED

IO.62(SPEC.)
2 April 1993

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

ORIGINAL: ENGLISH

5P

Workshop on the Modern Pharmaceutical
Formulations of Biotechnological Products

Glasgow, United Kingdom
23-27 November 1992

INDUSTRIAL AND TECHNOLOGICAL COOPERATION AS AN INSTRUMENT OF INTERNATIONAL COOPERATION*

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* This document has not been edited.

V.93 83765

In a changing global environment where industry has its economic, technological, social and political role, the United Nations Industrial Development Organization (UNIDO), as the United Nations specialized agency for the promotion of industry in developing countries, is also seeking a new avenue of approach. UNIDO has to define its new role at a time when the United Nations system is changing, preparing itself for the 21st century, whilst being aware that the projected share of the developing countries in the world's manufacturing production (excluding China) is only 14.9% in 1992.

One of the prerequisites for a viable self-sustained growth of industry is the size of the economy. The size of economy, can however, be achieved in most cases only by international cooperation. The international cooperation therefore is a must but it is often hampered with perceptions of cultural, social, political and traditional differences.

In this situation, the human resource development and particularly the management training, with its technical and social designs has to receive top priority. Fruitful cooperation of mutual advantage and benefit cannot be developed between parties that are divided by a significant gap. Major differences in the technological, social and political spheres can minimize the opportunity to cooperate and consequently decrease the economic growth and the rate of development.

For UNIDO, an organization whose mission is industrialization of developing countries, the core of development is the technology. At the level of sophistication today, it is increasingly difficult to make the choice of technology that best suits to the customer, not only from the aspect of economic viability but that which meets the environmental, social and political expectations. To illustrate UNIDO's contribution in 1991, the technical cooperation expenditure in chemical industries for 337 projects amounted to US$ 34 million, in engineering industries for 204 projects amounted to US$ 15.5 million, in agro-based industries for 147 projects amounted to US$ 12.6 million and in metallurgical industries for 123 projects amounted to US$ 7.5 million. A total of 811 projects were executed or were under implementation with a total budget of US$ 69.6 million.

UNIDO has a very specific role to train the industrial management and decision -makers in financial and political spheres in the developing countries in choosing the right technology which is safe, economically competitive, environmentally friendly, energy conserving, and furthermore does not excessively exploit the natural resources.

UNIDO, by advocating new avenues for international cooperation, has a positive impact on the developing countries, and, through this, the task of increasing a number of opportunities for the industry of both developed and developing nations.

To illustrate these new opportunities for international cooperation, a brief outline of the current trends is presented.

Industrial cooperation traditionally covers human resource development, that is training at all levels including training of management, transfer of technology, information exchange particularly on safety issues, marketing agreements, or even pricing agreements. In our changing economic, social and political environment, new forms of cooperation such as joint research and development programmes, certified suppliers providing full quality control protocols, validated suppliers for both equipment and raw materials and development of clean and energy conserving technologies have emerged.

The forms of cooperation can be long-term support programmes, net working, mergers, joint ventures, international trade agreements, foreign direct investment, etc.

The most current trend, particularly in Japan and North America, is a type of cooperation based on Total Quality Management (TQM). In light of TQM, all traditional assumptions on international cooperation should be reassessed.

TQM is a philosophy and methodology revolution in management that compels all employees to focus on meeting the customer's expectations and builds quality into every system and process within the organization. TQM cannot successfully be implemented without a collaborative empowered workforce having a shared vision. They should know and understand this "vision"; they should have the responsibility to improve the status quo; and should have the authority to make relevant changes.

The vision, that is most commonly projected, is "zero defects". Industry cooperation with TQM necessitates the introduction of a new terminology: rejects per million or even rejects per billion items. At this stage, the assumption that high levels of quality are prohibitively costly is not true. As an average, the total losses (that is, not only the defects) owing to sub-standard quality in manufacturing industry can amount to approximately 25% of the total sales. The new, highly sophisticated technologies have paradoxically been developed by simplification and cycle time reduction in addition to quality improvement.

In interregional cooperation, the existing cultural, social, environmental, political and technological gap should be bridged by mutually accepting certain criteria or vision. Such a criterion might be to change the "product only focus" perception of the quality. By a novel definition, quality can be "to meet the customer's expectations".

By accepting that the customer's expectations are not necessarily the same in Europe and Latin America or in other regions, the difference in cultural, traditional, environmental, etc., values should be taken into account. This has been one of the main reasons for a traditional cooperation of industry particularly in the areas of marketing agreements, pricing agreements, etc.

Industrial products complying with the customer's expectations could, however, be given more emphasis and can be the major driving force for developing new forms in international cooperation. As a result, the new trend could be more cooperation, rather than competition, in the international markets.

Instead of conventional mergers or joint ventures, the number of cooperation agreements in the area of R & D, and consequently in marketing and pricing agreements for the jointly developed products, are rapidly increasing in multinational industry. The introduction and subsequent use of certified and validated suppliers resulting from agreements between vendors and buyers, replacing the open competitive market, has not resulted in any marked price increase. Thus the ever-increasing cost of quality is very efficiently controlled. This approach has been developed even further by the service industry.

This type of cooperation logically results in a further increase of joint product development and through this a joint development of clean, safe and energy conserving technology.

Technological cooperation has its traditional forms that run parallel to the issue of the availability of technology. In our time, technological developments have become very expensive. Therefore, almost as a rule, they are protected. Without accepting the intellectual property rights, patent rights, etc., no international cooperation can exist. If the technology is available, through appropriate contractual agreements, the technology can be transferred. In most cases, not only the technology but the know-how should also be transferred for which separate contractual arrangements might apply.

If the objective is to achieve world class performance, the "know why", that is a complete horizontal and vertical information package should be transferred as well.

Based on the above very brief outline of new forms of international cooperation, it becomes clear that the competition in industry is more and more giving place to cooperation in order to face

successfully the challenges of our rapidly changing world not only economically, environmentally, and socially but also technologically.