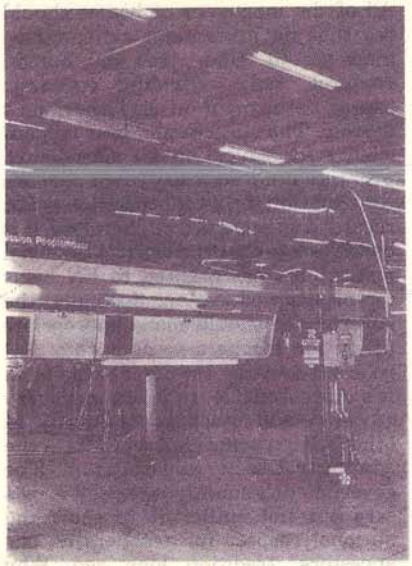

VIETNAM'S TECHNOLOGY IMPROVEMENT IN THE DIRECTION OF INDUSTRIALIZATION AND MODERNIZATION

by Dr. VŨ CÔNG TUẤN

With the new achievements in the course of innovation, position and power for Vietnam's development have made changes and conditions for stepping up the process of industrializing and modernizing the country as defined in the Resolution of the seventh Party's central conference, term VII (25 to July 30, 1994). The Resolution on "improving industry and technology till the year 2000 in the direction of industrializing and modernizing the country and building the working class in the new stage" recognized properly the reality and pointed out orientation, advocation, policy of improving technique and technology and building the working class in the new situation.

How are those decisions and policies brought into living?

In the era of elemental development of modern techno - scientific revolution, although Vietnam has the danger of falling behind in economic field, but it also has opportunities to enjoy international technological achievements so as to accelerate its development process in the direction of just industrialization and modernization, by combining modern achievements of human civilization with VN's tradition and characteristic. The strategy could be implemented by the following concrete programs and measures.

LEADING TECHNOLOGY PROGRAM

Leading technology program is the program studying and applying the achievements of modern techno - scientific revolution, aiming at leading industries and other in advance. It is particularly necessary for VN, but what step is decisive, what industries are leading ones for development? Let's see the following example.

Information technology improvement.

Man is living in the era of "information boom" According to the United Nations' recognition, today human basic demand is food and information. Food mentioned here implies food, clothes and residence.

Upon the survey of the World Bank, in the current global economy, information technology includes producing softwares, computers, transistors, electronic chips and means of advertising; mass media such as television, radio cassette...In 1993 the turnover of the world's information industry is US $ 2,900 billion, higher than that of industries of textile (US $ 1,620 billion), car (US $ 1,100), machine manufacturing (US $ 1,100 billion), defense (US $ 800 billion).

Mass media increased most sharply such as TVs, video cassettes... becoming leading products in the world market.

Information technology composes basic factors: hardware and software. Vietnamese with their creativeness can take part in the software market, realizing the Party's advocation "Developing electronics - informatics industry so that it becomes a leading one in the next decade, implementing the national program on information technology, bringing fast electronics - informatics into production, management and defense"

APPROPRIATE TECHNOLOGY PROGRAM

VN lacks three things: capital, technology and management. In the condition of lacking capital, VN isn't imperative to use the most expensive and modern technology. The United Nations' warning for developing countries is that they should study the application of appropriate technology, particularly in technology transfer from abroad through direct investment and other ways.

Law on foreign investment in VN has come into being for over six years. In forming, evaluating and realizing foreign - invested projects, composing pure technology transfer concerning industrial property such as patents, know - how, industrial designs, trade - marks, a problem being considered at times and meaningful is the selection of appropriate and optimum technology in VN reality. In Decree No 139 on "detailing the implementation of Foreign Investment Law" issued by the government on Sep 5, 1988, the Articles 41, Chapter 3 stipulates:

1. Technology transferred to the jointventure must be necessary and suitable for making socio - economic effects or raising competing capability in the international market.

2. Transferred technology must meet one of the following requirements.

- Improving remarkably design, quality of products and productivity.
- Making new products which are urgent need of VN or producing substitutes for imports.

3. Saving considerably raw materials and power. For VN like other developing countries where financial source is short and other sources are limited such as: power, materials, raw materials... Selecting appropriate technology to exploit "input" force effectively is an absolutely essential task.

In order to produce a certain kind of product, there are many competing technologies on sale. Technology receiver or buyer should assess and select them before he/she suggests in the feasible project to submit to the authorities. The authorities have to choose an appropriate and optimum technology in the introduced projects. As to the form, approval of a certain technology is expressed in the registeration of cooperation agreement between the domestic receiver and the overseas owner. Concerning the content, the autho rities should do these tasks:

1. Examining and checking the process of choosing a technology proposed by the receiver

2. Selecting among submitted technologies by deliberating on source limit as: power, raw materials, capital, foreign currency, skilled labor... so as to decide an appropriate technology.

3. Evaluating technology at the macro angle of the economy as follows:

- Suitableness of domestic infrastructure for chosen technology.
- Benefit and other contribution of chosen technology to the economy.
- Capability of the receiver when getting and exploiting the technology.
- Cost of technology investment and utilization.
- Influence of selected technology on evironment pollution and measures to overcome
- Essential sources attached with the technology as: patents, know - how, industrial designs, trade - marks

The more properly the technology evaluation and selection are carried out, the less risks the receiver suffers. The risks originate from subjective assessment, lacking scientific foundation about investment scale, market, technical feature of the product, characteristic of technological process, estimated profit...Lessons from importing olesolescent technology, machinery and equipment in the past must be learned. To tackle this, the central body authorized to evaluate and approve is Ministry of Science, Technology and Environment and in HCMC it is the Service of Science, Technology and Environment.

VN'S TECHNOLOGY IMPROVEMENT: TRADITION AND MODERNITY

Technology is understood as means and method to carry out production and services in the country. Vietnam's technology has been preserved and developed for thousands of years. Technology of planting rice is summed up in the saying: "Water - fertilizer - labour - seed". Technology of casting and metallurgy in the copper product era of VN with famous Đông Sơn (Hòa Bình province) copper drums is the symbol of VN's civilization and culture in the ancient times.

The leading industrial countries (G7) had to spend centuries on industrial development, but with experiences from the pioneers, new industrial countries (NICs) (Taiwan, South Korea, Singapore, Hong Kong) need only a period of 2 to 3 decades for industrialization. In which, there is a considerable lesson: industrialization - modernization on the base of national characteristic and culture.

Even though modern technology is imported and appropriate one is transferred, VN technology - a factor forming VN culture - should be studied, invented and applied by Vietnamese themselves. Thus, from the practice of every production and services, VN technology theory should be summed up.

Combining the target of socio - economic development of the country, every localities with that of techno - scientific development will set up technology environment to plant seeds for its development. The development targets of HCMC in 1994, introduced in the Resolution of the eighteenth session of HCMC People's Council, consist of increasing the industrial output value by 15%, of which industry serving exportation up by 13%, agricultural output by 2.3% compared with 1993, reaching 260,000 tonnes of rice, 250,000 tonnes of vegetable, 4,500 cows, 180,000 pigs. The above targets are also problems to solve for the city's techno - scientific circle.

In 1994 HCMC exported its mechanical products as electric fans, rice polishing and unhusking machines, D6 diezen motors to even NICs such as Taiwan, Singapore, Malaysia, Indonesia...The HCMC's techno - scientific circle also made contribution to the city's food and foodstuff belt

TECHNOLOGY SOCIALIZATION

Industrialization and modernization is a longlasting process having the strategic meaning and aiming at making the people rich and the country powerful, the society equitable and civilized.

It is the task of the whole people of many generations and the great unity of all strata in the society.

Together with the formation of the market economy, the capital, labour or technology market is indispensable. In HCMC the technology market has come into being at the first step.

In the city 28 associations of specialized science and technology were established and became the important intermediaries gathering and exploiting potentials of scientists and technicians (100,000 people of BA level and 1,000 of MA). The public techno - scientific organizations made positive contribution to the target of developing the city. In 1993 HCMC recognized 70 R & D projects and 80% of which are applied to effective production and services, up by 10% over 1992.

In the internationalization of the world economy, technology socialization is attached to its internationalization and the technology transfer direction has changed intensively from North - North to North - South and South - South. In the past years, HCMC cooperated with foreign countries in R & D, re - supplying research facilities, training or retraining techno - scientific staff. The city collaborated with France to establish the Chemical Test Center, the Complex Materials Research Center, combined with the United Nations Development Program (UNDP) to realize 8 projects of technology transfer in dye, drugs and medicines, plastic, package, vegetable, afforestation...In international cooperation, technology renewing program is given priority in the direction of industrialization and modernization.

We can make full use of technology as a factor of direct production force, and an important "input" source if we rationally join the target of socio-economic development onto that of techno - scientific improvement, implement advocations and policies synchronously and consistently, technology socialization and at the first step form technology market ♣

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