ON HUMAN RESOURCE FOR THE PLASTIC INDUSTRY IN 2001-2010

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In recent years, the plastic industry has been one of industries, especially in HCMC, that gained the highest growth rates, varying between 27% and 30% a year, due to introduction of new equipment and technology and reform in management machinery. The center of the plastic industry is HCMC where produces over 70% of total plastic output with a wide range of products.

The target for this industry in the coming 15 years is to modernize equipment and techniques with a view to producing import substitutes (high-quality and complex products). In addition, the plastic industry should invest in production of raw materials, semi-finished products, molds and other equipment. To achieve this target, full attention should be paid to improvements in the human resource, especially the army of skilled workers, technicians and managers.

Most managers at the conference of the plastic industry in January 1999 on the socioeconomic development plan for the years 2001-2010 agreed that the army of technicians lacked ability to absorb, adjust and develop new technologies. In addition, this army was small, unevenly distributed and used wastefully. Competent managers and well –trained technicians is still lacking. Relations between research and training were poor.

Facing such a situation, finding out solutions to the development of the human resource for the plastic industry in HCMC in the years 2001-2010 becomes a matter of great urgency.

1. Situation of the plastic industry

The plastic industry in Vietnam, in fact, could only turn plastics (most of them are imported as raw materials) into products (mainly household goods) and has no ability to produce raw materials and high-tech products for industrial use, that is, it is dependent on foreign supply of raw materials.

In Vietnam, the plastic industry in recent years has tried to modernize its equipment and production lines, improve its capital turnover and produce a wide range of products for both industrial and household use. According to the UNDP, some 70% of goods needed for the daily life are made of plastics. The average plastic output per capita is 30 kg. This figure in Vietnam is only 12 kg as compared with 100 kg in developed countries.

HCMC is the country's biggest market for plastic products in terms of production, distribution, application of new techno-scientific advances and foreign trade. It accounts for some 70% of the Vietnam's plastic output. In the 1990s, its growth rate was 25-30% on average as compared with the growth rate of 14.5% by the manufacturing sector. Although its growth rate reduced to some 10% in 1999 and 2000, it was still high as compared with other industries. Both domestic and foreign markets are offering new business opportunities for the industry and the market demand for plastic products is on the increase. With the existing human resource, however, it's unlikely that the plastic industry will be able to take these opportunities and meet the market demand.

2. Market and supply force

Table 1: Development of Vietnam's plastic industry

Year	Total output (tonne)	Growth rate (%)	Per capita plastic output (kg)
1975	50,000		1.05
1989	50,000		0.77
1990	66,000	32.0	1.00
1991	85,000	28.8	1.27
1992	110,000	29.4	1.59
1993	140,000	27.3	1.97
1994	190,000	35.7	2.62
1995	280,000	47.4	3.78
1996	400,000	42.9	5.60
1997	500,000	25.0	6.60
1998	625,000	25.0	8.00
1999	780,000	24.8	9.80
2000	950,000	21.8	12.20

Source: Vietnam Plastic Corporation

From 1975 to 2000, the plastic output rose by 19 times, from 50,000 to 950,000 tonnes. It growth rate slowed down in 1997-98 because of the Asian financial crisis. In 1999-2000, however, the market demand rose, consumers wanted more diverse products while other industries started to place orders for various kinds of products. This situation allowed the industry to increase its output with the result that the per capita plastic output rose to 9.8 kh in 1999 and 12.2 kg in 2000. These factors made the plastic industry, especially in HCMC, recover and develop quickly as shown in the following table.

Table 2: Plastic output in HCMC

Year	Output value (VND billion, 1994 price)	Growth rate (%)
1996	1,565,100	34
1997	1,935,100	24
1998	2,252,000	17
1999	2,902,650	29
2000	3,628,125	25

Source: HCMC Statistics Agency

3. Demand force

The market demand depends on many factors because the plastic industry serves customers with various needs. Plastic products could be divided into eight groups: (1) plastic raw materials (PC resin, PVC compound, DOP, PS, PE); (2) plastic shoes for export, (3) processed rubber (with some plastic content), (4) plastic household goods, (5) high-tech products for industrial use, (6) plastic building materials, (7) plastic package, and (8) molds.

- The Vietnam's plastic industry could only produce mainly household goods and fail to supply plastic raw materials: Vietnam has to import plastic raw materials from neighboring countries, NICs and developed countries. Because of shortage of hard currency, all plastic producers are dependent on foreign supplies of plastic raw materials. All changes in the world plastic market will affect the local production. Dependence on foreign supplies means Vietnam's plastic products couldn't be exported because of their high production cost when producers have to pay double costs of transport and insurance which account for at least 15% of the production cost.

- The plastic industry only develops in a zone. Most of plastic products are made in HCMC where all important factories, both locally and foreign-invested ones, concentrate in. This concentration is due to: (1) HCMC is conven-

ient for producers to import raw materials, recruit skilled laborers and get access to foreign technology and new designs or molds; and (2) HCMC is a big market for plastic products. These factors have made HCMC a center for the plastic industry for many decades although it isn't convenient for transport od products to Cambodia and Laos, two main export markets.

4. Human resource for the plastic industry

At present, the plastic industry is employing some 14,000 laborers equaling 4.6% of the labor force of the manufacturing sector.

White- collar laborers represent some 17% of the workforce in the industry. Regarding the training level, 6.65% of the workforce is university graduates, 2.1% from technical high schools, 7.97% is technical workers.

Blue-collar laborers represent 83% of the workforce: only 1% of them graduated from university; 7.97% are technical workers; 4.6% from technical high schools, and 69.23% are untrained laborers. In short, manual laborers represent 76.6% of the labor force in the plastic industry and 6.8 times bigger than the number of skilled laborers. This is a worrying fact when we think of a long-term development plan for the industry.

A survey of plastic companies in HCMC shows that laborers with university degrees represent a large percentage, from 50% to 60% in foreign –invested companies and from 20% to 30% in local ones of large size. The smaller the companies, the lower the average education level of their laborers.

Table 3: Education level of laborers in the plastic industry

Level	%
University	20
Advanced and technical school	10
High school	45
Middle school	25

Table 3 shows that the number of laborers from advanced or technical schools is very small and they even didn't exist in certain companies while all factories are badly in need of engineers and technicians of advanced level. This situation is common among other industries in Vietnam. Moreover, certain studies also reveal that only a handful of workers is trained in plastic or polymer technology. Many workers who operate machines didn't take any training courses, even short-term ones.

As for the army of engineers, many of them have no ability to manage technical matters, direct production or work out strategies for the development because they have no chance to learn foreign technology and managerial skills. For many years, no institution or faculty of a university has been specialized in training laborers for the plastic industry. To enhance skills for engineers and technical workers, industry authorities should make plan to provide them with regular refresher courses and send engineers abroad to make studies.

At present, the plastic industry has many managers and directors who are active and creative when managing their business and coping with changes in the market forces. However, only 37% of them graduated in plastic or polymer technology. In small concerns, it's very hard to find a director with a university degree.

5. Solutions

The development plan for plastic and rubber industries in HCMC and surrounding provinces suggests increasing the plastic output to 1.8 million tonnes by 2010, raising per capita output to 20 kg (and 159 kg for HCMC population). This means that the plastic industry has to double its output, to 1.45 million tonnes by 2005.

To achieve this target, the plastic industry needs many competent managers, designers and technical workers, and it has to make plan to develop this army right now. At present, the plastic industry has no center specialized in training workers for the industry. Most workers learn from experience or serve an apprenticeship with skilled workers. For the time being, therefore, the plastic industry should provide skilled workers and managers with refresher courses to help them meet the demand in new stage of development. The plastic industry authorities could cooperate with research centers, universities or foreign experts (from companies that supply raw materials and equipment to Vietnam) in giving short-term training courses or send engineers abroad to make studies.

To train workers for the plastic industry, in our opinion, cooperation between the HCMC Association of Plastic Producers and Universities of Technology and of Economics in HCMC; HCMC Services of Industry and of Science, Technology and Environment; and the Plastic Technology Center is necessary. The HCMC Association of Plastic Producers must form a board specializing in training issue while the said universities and center are responsible for training programs including both theoretical and practical aspects.

To help managers and directors make sound decisions on raw materials to be imported, technical renovations, designs of new products or import of new technology, the training board should give short-term training courses in plastic products for household and industrial use and production methods. In addition, information about technical advances and market demand should be available for all companies.

To develop highly skilled labor force for the future, technical schools and research centers specializing in plastic technology should be established. In this matter, the Association of Plastic Producers could cooperate with plastic companies to buy training courses from the Asian Institute of Technology to make sure of the number of graduates every year.

The plastic industry has gained high growth rates in recent years. Many industrial experts consider it as the most mechanized and automated industry in Vietnam. Quality of plastic household goods and package has been improved, allowing them to be saleable in both local and foreign markets. After a decade of development, an army of competent and skilled workers and managers has come into being and adjusted themselves to the market mechanism. This army, however, isn't big and diverse enough to absorb new techniques and technology in preparation for a new stage of development when international competition becomes keener and keener. That is why the task of training highly skilled workers in the plastic industry becomes a matter of great urgency at present and in the near future ■

Reference

- Dương Thị Ngọc Liên, Nâng cao khả năng cạnh tranh của các doanh nghiệp nhựa Việt Nam trên địa bàn TP.HCM ("For a better competitiveness of plastic companies in HCMC"), a master thesis, 1999.
- Nguyễn Thanh Long, Một số giải pháp về định hướng chiến lược phát triển ngành nhựa trên địa bàn TP.HCM đến năm 2010 ("Strategic solutions to the development of HCMC plastic industry up to 2010"), a master thesis, 1997.
- Prof. Dr. Phạm Minh Tâm, Điều tra đánh giá hiện trạng nhân lực công nghệ và sản phẩm nhựa TP.HCM ("A survey of human resource, technology and products of the HCMC plastic industry"), a report, 1999.
- Documents of the ASEAN Federation of Plastic Industries Conference in Singapore, January 1997.
- Documents of the Conference of Plastic Industry in HCMC, October 2001.
- *Phát triển Kinh tế*, no. 91, May 1998