Technical Vocational Education in India

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In India, several efforts have been made for the development of skilled manpower during the last twenty years since the launch of formal technical vocational education at school. A huge education infrastructure has developed in India. However, 45~50 percent of the population of India is still illiterate. To solve the mismatch between education and employment, a revolution in education is really needed. Additionally, there is a need for a system of National Vocational Qualifications in India as large number of people acquire skills through informal training.

Key-word: India, technical vocational education, vocational qualification system

1 India in the context of the economic situation

India is a huge nation. It covers an area of about 3,288 thousand square kilometers and has a population of about 963.2 million. Indian's main feature is its diversity. There are 7 races, 14 official languages, and several religions, such as Hindu, Islam, Sikh, Jaina, Christianity, and Buddhism. India is a federal nation with 25 local states and 7 Union Territories.

In terms of the economy, India is still developing. Indian GDP growth is 6.8 percent, but Per-capita GDP (PPP) is US $1,500[i]. Compared with other countries, growth is high but Per-capita GDP (PPP) is low. Japanese GDP growth is −0.2 percent, and Per-capita GDP (PPP) is US $23,440. South Korean GDP growth is 3.9 percent, and Per-capita GDP (PPP) is US $12,390. Philippine GDP growth is 4.7 percent, and Per-capita GDP (PPP) is US $ 3,020.

In India, there are also 200 million unemployed, 40 percent of the population are illiterate and there are 200 million unskilled and semi-skilled workers below the poverty line. There is a great economic imbalance. In terms of human resource development, India stands 134th out of 174 countries[ii].

Human resources play a key role at every stage of economic and social development not only in India but also in other Asian countries. Human resources are made available through education and training. To develop the national economy, the education and training of human resources is a critical factor in the context of fast economic reforms and competition among countries and retaining benefits received by those who have been educated and trained[iii].

In this paper, I would like to compare the Indian technical vocational education (TVE) system to the Japanese one, and to discuss some issues concerning TVE in terms of the development of a national vocational qualification system.

2 The Technical Vocational Education (TVE) system in India

2. 1 A general view of the education system

In India, the present school system is a 10−2−3 system. Primary and lower secondary education last 10−years, upper secondary education lasts 2 years, and college education lasts 3 years. Since India is a federal nation, each state has a different education system. Basically, Indian public (i.e. state) school system charges no tuition fees for 6 to 11 year olds. Most states regulate compulsory education for 6 to 14 year olds. Generally, the Indian education system is

Received May23,1997

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based on the British system.

On the other hand, as Japan embarked on its process of modernization following the Meiji restoration of 1867, a new education system was introduced in 1872. Then in 1947, in the aftermath of World War II (WW II), Japan's education system was radically revised again. The present 6 − 6 − 3 − 4 system is modeled on the US system.

2. 2 The TVE system

Formal TVE starts at the level of upper secondary education in India. However,some say that"work education"in some form is an integral element of school curricula in all states[iv]. For instance, students learn "work experience" at the primary and lower secondary levels, and they learn pre-technical vocational education at the level of upper secondary education.

Generally, formal TVE programs are developed by each state. Then students pay only a fraction of the costs as a tuition fee.

At the level of upper secondary education, Indian TVE came into existence after 1976. Initially it was started in 8 states: West Bengal, Delhi, Karnataka, Gujrat, Maharashtra, Tamil Nadu, Pondichery and Andhra. Although the TVE system in India has not run for a long time, 31 states and union territories out of 32, except Lakshawdeep, have started TVE programs so far. Out of 23,662 senior secondary schools, 6,280 schools (26.5 percent) have TVE. 55 percent of them are run by government and local bodies, 40 percent by the private aided sector, and 5 percent by the unaided sector.

There are more than 150 vocational courses running in 6 major areas such as agriculture and commerce etc.

The Japanese TVE system is, on the one hand, similar to the Indian one: for example, Japanese formal TVE also starts at the level of upper secondary education.

On the other hand, formal TVE in Japan has a longer history than Indian TVE. As a result of education reform after WW II, secondary education adopted a new school system which put general education at the center of the curriculum, and that TVE had regressed compared with the former curriculum at the level of secondary education. However, historically, the Ministry of Education, Science, Sports and Culture (MOE), has pushed for TVE. This is especially true for engineering education, which naturally leads to the development of industry and the economy.

Regarding the administrative domain of TVE, the Ministries of Human Resource Development and Ministries of Education in each state have the initiative. In most states, TVE is under the directorates of the Ministry of Education. Some states have created separate vocational wings within directorates such as Orisa and Rajasthan etc. Separate directorates of TVE in the states are Maharashtra, Karnatka, and Lerala. In one state, Haryana, it is amalgamated with the Department of Industrial Training. In most states, vocational courses are located in general upper secondary schools as a distinct stream.

In Japan, most senior high schools themselves are traditionally divided into two types, those offering general courses and those offering vocational courses, even though the number of integrated courses is increasing now. Senior high schools with general education courses are 74.0 percent, Ones with technical vocational education courses are 23.7 percent, Integrated courses constituted only 0.3 percent, and others constituted 2.3 percent in 1996. Why are integrated courses still developing in Japan? The present 6 − 3 − 3 − 4 system was established to realize the principle of equal opportunity in education. This principle was based on three factors: the educational district system, co-education, and an integrated school system. However the integrated school policy soon produced a few problems. One of them was that vocational courses at integrated high schools lacked the equipment necessary for technical vocational education and teachers who could teach vocational subjects. In 1951, the "Bill for the Promotion of Technical Vocational Education" was enacted and independent vocational high schools began to flourish again. Despite the MOE's promotion of TVE, the

proportion of students attending technical high schools has been declining since the WW II. The enrollment rate of upper secondary schools increased rapidly, from 42.5 percent in 1950 to 62.3 percent in 1961, and to 82.1 percent in 1970. In 1995, this figure reached 95.8 percent.

Since general courses are more highly rated by society and because of changes in industrial structure, the number of students attending vocational high schools today is about 25 percent of the Japanese secondary education population. The number has been in a downward trend — from about 40 percent since 1970. To develop vocational high schools and meet the varied needs of students, the MOE introduced the establishment of integrated courses again.

Japan has three systems of technical vocational education: schools, in-company-training, and public training centers. Basically, they have developed independently of each other. As the Japanese economy recovered after the heavy damage it sustained during WW II, the industrial sector needed skilled labor. However, the standards of the new technical high schools, which were born after the war, were too low to meet the needs of the industrial world, since the system had just started. Therefore, industry had begun to build its own educational system to train craftsmen and technicians. This gave birth to the present "in-company-training", "Kigyo-nai -kyouiku" in Japanese. Many people have said that one of the reasons for the success of Japan's economy is a good and effective education system within industry: "in-company-training".

At this time at the beginning of the 1950's, public vocational training centers, which were Japanese government training schools, started new 6 months or 1 year vocational training programs for graduates from junior high schools. The main purpose of this program was to counteract unemployment. Many people who finished the program at the public vocational training centers took jobs in small industrial businesses. Therefore, technical vocational education in the public sector had contributed greatly to the development of labor in the small business world.

Indian TVE in the non-formal sector is divided into three types; community polytechnics, Shramik vidyapeeths, and NGOs. There are about 400 community polytechnics. Their focus is to uplift the community socio-economically through micro-level planning and participation at the grass-roots level. For example, they aim to remove drudgery for women through short-term training in skill oriented technical and vocational trades.

There are 53 Sharmik Vidyapeeth in India. They are social training sector whose objective is to improve the socioeconomic status of the poorest of the poor by running income generating schemes for the urban working community. There are 220 vocational training areas, such as in tailoring and bookbinding etc.

3 TVE issues in India[v]

In India, several efforts have been made for the development of skilled manpower during the last fifty years, or at least the last twenty years since the launch of formal technical vocational education at school. Can we say that the existing technical vocational education system has being working successfully? It may be difficult to find one answer. It is true that a huge education infrastructure has developed in India. However, 45 ~ 50 percent of the population of India is still illiterate. Out of 308 million of the employable age group, 15—60 years old, 200 million are without jobs. It means that 40 percent of the work force in India is unproductive and dependent on others. From the literacy point of view, 176 million working people are uneducated and 122 million are upper secondary or less educated. Just 10 million who are working in technical as well as non-technical sector posses higher education[vi].

To solve the mismatch between education and employment, a revolution in education is really needed.

From this point of view, one of the issues is to develop the quality of technical vocational education. As mentioned above, India is a federal

nation and each state has strong power in the field of education and the human resources training system. This puts obstacles in the way of the development of national educational standards. In other words, the level of education of each state or each district has a very large variance. The lack of a national standard is related to non-competency and non-productivity.

The second issue is the negative image and lower prestige of technical vocational education in India. The people who are in the main stream, such as politicians and bureaucrats, have not taken care of technical vocational education for a long time, even though it is said that the Ministry of Education is keen on the development of technical vocational education in India. As mentioned above, there is only a twenty-year history of formal TVE in India.

The third issue is , in the school settings, how India certifies the specific skills which are needed as technology changes. It is very difficult to specify specialized and narrow skills, since technology changes over time and so the necessary skills also change. It is essential that India creates a new kind of human resource taking care of its quality, although it would cost a lot to renovate the present facilities which are very primitive.

The fourth issue is teachers' quality. It is also very difficult to recruit good quality teachers. In India, teachers' salaries are not high and their social status is not high either. Teacher training is a big issue.

4 Development of a National Standard in the field of TVE and Vocational Qualification System

In the context of the Indian economy, the education of human resource has become a critical factor. The importance of professionals, middle-level technicians and skilled workers for any job is well recognized. The education system is meeting the demand of semi-skilled and skilled human resource to a limited extent. At the same time, a large number of the work force acquires skills either through informal training or learning on the job. The present education system has ignored the demands of unorganized sectors of the economy which provide employment to more than 90 percent of the work force[vii]. The regular school system does not permit the possibility of continuing education for workers who need further knowledge and skills in order to receive due recognition and promotions.

There is no system or mechanism in which the training acquired either through informal training or experience gained through working could be recognized. The formal linkage between informal training and education is missing in India. It is true that some vocational skills are qualified by the states. However, each state has its own vocational qualification system, and the level and contents of them is very diverse.

There is a need for a system of National Vocational Qualifications (NVQ) in India as large number of people acquire skills through informal training. Additionally, there is a need for the NVQ system for the development of the Indian economy. This system should make a positive impact. It would grade and recognize the competence of experienced skilled workers through testing and certification, so that people can seek employment or attain promotion. It would provide suitable entry points for short term competency based vocational courses to those who have a general education but lack appropriate skills to gain employment.

At the moment, cooperation between technical vocational education sectors, industry, and the market place is increasing but this association should not only be with the national economy, but also with global economy. To become a member of the global economy, India requires a well-qualified and skilled labor force to product goods efficiently. This trend makes an early introduction of national skill standards, the development of national competency standards and a national qualification framework essential.

5 TVE as life long learning

The center of technical vocational education in India and Japan has been the upper secondary school. However, technical vocational education should not be conducted only in vocational upper secondary schools and colleges/universities: it should be much broader in scope, and it is needed throughout Indian and Japanese society. The fast-pace of social change taking place means a greater need for specialists (workers with advanced, specialized knowledge and skills), and for the increasing sophistication and diversity of the skills and knowledge required by specialists.

All workers must try to improve their skills throughout their lives, by building on the basics they learned in vocational upper secondary schools and continuing to study after graduation. This continuing education can take place in the workplace, universities, or many other educational institutions. It is thus crucial that we take a deeper look at the traditional upper secondary schools and continually improve and innovate them to keep pace with changes in society and industry.

i *Asiaweek, 1998. 4 .17*, Vol.24 No.15, p.67, Asiaweek Ltd.
PPP means Purchasing-Power Parity(based on World Bank ratios)which takes into account price differences between countries, for a more accurate measure of national wealth.

ii ibid. p. 4

iii Dr. Vipin Kumar Jain, "Some issued for discussion on development / adaptation of a national vocational qualification testing and certification", p. 1, Discussion Paper at In-country training workshop, "Development of a National System of Vocational Qualifications", New Delhi, April 21−28,1998

iv Dr. Davinder Vaid's presentation on April 21

v In the following part of this paper, I would like to focus on and mention formal education sector, since total TVE area is very big.

vi All statistics in this section are referred from Dr. Vipin Kumar Jain, "Some issued for discussion on development / adaptation of a national vocational qualification testing and certification", p. 1, Discussion Paper at In-country training workshop, "Development of a National System of Vocational Qualifications", New Delhi, April 21−28,1998

vii Dr. A.K. Sacheti et., "Towards Development of a framework for national system of vocational qualifications: A model for dairy sector", In-country training workshop, "Development of a National System of Vocational Qualifications", New Delhi, April 21−28, 1998