The need for higher level of skills and qualifications has been recognised by most nations as a crucial requisite for international competitiveness in the new millennium. The world economy will have a rapidly increasing need for qualified labour-competence in workplace and essential key skills to recognised standards. Sultanate of Oman (formerly presented by the Vocational Training Authority and at present by Ministry of Social Affairs, Labour and Vocational Training) has recognised its own needs in these areas and has introduced major changes in the systems of vocational and technical qualifications in recent years. However, vocational and technical education in Oman is facing a growing set of pressures to compete in a fast increasing global education market.

This paper describes the current technical education system in the Sultanate of Oman. Firstly, a glimpse to the national economy is given. Secondly, technical and vocational education in Oman is introduced. Thirdly, the current technical education system in described, giving particular attention to its curriculum. Finally, an issue for the future is proposed to be investigated as an attempt to achieve quality technical education meeting the emerging needs of the 21st century.

National Economy
Before 1970, Oman had a great shortfall in most economic and social aspects. The development started after 1970, following His Majesty Sultan Qaboos bin Saeed's accession to the leadership and the launching of a broad plan to modernise and develop the country. Since then, Oman has achieved remarkable progress, both socially and economically, with the implementation of successive Five-Year Development Plans. However, there are new challenges confronting the government due mainly to uncertain oil revenues. Oil is and has been the main source of the country's economy. Recognising the finite nature of oil reserves, and as a result of the continuous decline in oil prices during the period of 1981–85, Oman was able to tackle this situation by applying a number of measures aimed at the continuity of economic growth in the country. The measures included giving a particular attention to the local human resource development and upgrading the skills of the Omani workforce improving their capabilities to contribute to the national economy. Human resource development is a priority in Oman's development planning. This is reflected in the allocation of Rial Omani 207 million (US Dollar 537.694 million) for this purpose, for the period 1996–2000. Funds are used to cover the development of basic education, as well as increasing the number of health and nursing institutes and the provision of additional technical and vocational training. About 30,000 students have been trained during this period. The government is intensifying its efforts to provide Omanis with sound basic education and the appropriate level of skills through technical and vocational training.

In Oman high priority was given to economic growth to build up the infrastructure and have a modern state. Thus, reliance
on non-Omani labour force was high. Clearly, the planning of human resource development in the Omani context lags behind the general economic planning. At present, Omanis form 42% of the total labour force of the Omani economy, compared with 30% in 1990, most of them occupy jobs at unskilled and semi-skilled levels, especially in technical areas.

Technical and Vocational Education in the Sultanate of Oman

In the Sultanate of Oman, Technical and Vocational Education is operated by The Ministry of Social Affairs, Labour and Vocational Training (MSALVT). The programs provided are at both secondary (Vocational Training Centres) and post-secondary (Technical Industrial Colleges) levels.

Vocational Training Centres (VTCs) offer a two-year full-time program divided into:

- Foundation program: a one-year program aiming at preparing semi-skilled level manpower.
- Advanced program: a two-year full-time program (2yrs. for new intakes and 1 yr. for those continuing from the foundation program) aiming at preparing skilled level manpower.

There are four VTCs in the Sultanate and offer courses in mechanical production, welding and fabrication; electrical installation, refrigeration and air-conditioning; automotive; construction; and carpentry. The VTCs are the major institutions for training the craftsman and skilled manpower in Oman. In 1999 a total number of 1775 trainees were enrolled, accounting for 1137 trainees for the semi-skilled level foundation program and 638 trainees for the skilled level advanced program.

Technical Industrial Colleges (TICs) are established for the purpose of providing the market with technicians equipped with general theoretical knowledge and practical skills to meet the technical manpower demands. The TICs provide three-year full-time post-secondary programs divided into:

- Foundation program: a prerequisite one-year program aiming at developing students English language and communication skills, mathematics and computing skills before they embark into their technical areas.
- Advanced program: a two-year program in a chosen specialised area.

The specialised areas are grouped into technical and commercial. The technical areas include mechanical engineering, electrical engineering, construction, information technology, and science. The commercial area involves business studies. At present, there are five TICs distributed geographically into five main regions of the country with an enrolment of 4,684 students; about 10.4 percent of the total higher education enrolment.

Because the VTCs and the TICs were not equipped to cater for the labour market’s increasing demand on semi-skilled, skilled and technical manpower, the ministry enacted the ministerial decree 24/85 to establish and accredit private training institutes.

Therefore, in addition to operating the vocational training centres and the technical industrial colleges, the MSALVT authorises and supervises the running of the private technical and vocational institutes.

The private training institutes operate as post-secondary education providers and aim at training semi-skilled and skilled workers through programs lasting for three months to three years. The training is conducted by enterprises and corporations and the department of private training institutes at MSALVT is responsible for supervising and checking the quality of the programs delivered.

Noticing an increase in the number of unemployed young Omanis (mainly dropouts from the schools or high school graduates), the government has decided on a sponsorship scheme to train a number of young Omanis every year in the private institutes. This step has resulted in:
• Providing 4000 training opportunities annually.
• Varying the range of the training areas offered. At present the areas include: administration studies (accounting, general administration, sales, insurance, customer services, and computing), technical training (automotive, electrical installations, welding, building, carpentry, and manufacturing), and skills training (art and design, catering, tourism).
• In 1998, 2383 applications were made to benefit from the scheme, 1623 have met the acceptance criteria and were actually accepted.
• Increasing the number of the accredited private training institutes to 158 institutes.

In addition to the above mentioned technical and vocational training institutes there are a number of training providers that are under different government ministries, among them are the:
• Health Science Institutes which are under Ministry of Health and offer courses of three years duration in nursing, paramedical, x-ray and medical laboratory technicians. The trainees are selected and trained to serve the medical sector of the country.
• Education Colleges which provide training programs for elementary, preparatory and secondary school teachers. There are six Education Colleges and are operated by the Ministry of Higher Education. They are of four years duration.
• Sultan Qaboos University which is the first and only university in the Sultanate, opened in 1986 with faculties of agriculture, arts, commerce and economics, education, engineering, islamic studies, medicine and science. The university functions as a separate educational body with its own administration that is guided by the policy-making body of the University Council.

Moreover, there are the quasi-government organizations that run post-secondary technical training, and these are:
• The Central Bank of Oman which operates the Banking Institute to prepare the manpower needed in the various areas of the banking sector in the country.
• The General Telecommunications Authority which run two-year courses in telecommunications.
• The Petroleum Development of Oman which operates a training centre to prepare technicians for the gas and petroleum sector in Oman.

Most of these courses are of two to three-year duration depending on the specialisation and the medium of instruction.

The Technical Industrial Colleges (TICs)
Since 1976 (the first five-year development plan), the government has been establishing its economic development plans putting greater emphasis on technical and vocational education systems in order to supply the manpower necessary to implement the plans. As a result, MSALVT has rapidly expanded enrolment in VTCs.

During the second five-year development plan (1981-85), the government undertook a fundamental structural change towards the development of the country’s economy. This structural change increased demand for skilled and technical workers. To meet this requirement, MSALVT strengthened technical education at the post-secondary level, opening the first technical industrial college, Muscat Technical Industrial College (MTIC), with a capacity of 400 students.

With the 90s, the government was facing new challenges posed by globalisation and the changing environment of economy and the labour market. To meet the local industrial demands, the government tried to introduce various measures to strengthen technical education systems in order to prepare the necessary skilled manpower requirements of the industry.

In 1993, the government began taking certain steps to increase the enrolment ratio in technical education. Four technical indus-
trial colleges were opened; Nizwa, Salalah, Ibra and Musan'a TICs. Two more TICs are yet to be opened in the interior by year 2001.

Although this contributed to increasing the enrolment in technical education from 4.7% in 1991 to 10.1% by 1995, the fact remains is that students' and their parents' attitude towards technical education is not positive, and almost all students want to complete their general academic education. This is creating a shortage in supplying the necessary local manpower required by the industry.

The Current Curriculum of TICs

Within the strategy of manpower development put forward at the 1995 "Vision Conference: Oman 2020", and to strengthen the links between TICs and industry, a decision was made to introduce the British system of General National Vocational Qualifications (GNVQs) to provide well-trained Omanis to strengthen the private sector role in the economy. The qualifications are awarded by the British Royal Society of Arts (RSA) and certified by the British National Council for Vocational Qualifications (NCVQ).

The program was initially introduced at MTIC and the first batch of 99 students to obtain their GNVQs graduated in 1997. 36 qualified in information technology, 12 in business studies, 8 in science, 33 in engineering and 10 in construction. The syllabus was subsequently introduced at Nizwa, Salalah, Ibra and Musan'a TICs.

The GNVQ program comprises two academic years of technical studies in any area of specialisation offered by the TICs. Because the medium of instruction is English (the students come from schools with a beginners or intermediate level of general English) and because most of them are computer illiterate, the TICs offer a prerequisite one-year foundation program in English (with intensive ESP component), mathematics and computing courses. Only with the successful completion of the foundation program, they get to move on to a GNVQ area. The GNVQs tend to provide a general theoretical background of the subject area with some practical hours and field training.

In 1998, MSALVT called for examining the effectiveness of the GNVQ and its policies in order to enhance its strong points and remedy its weaknesses. The committee formed to carry out the quality assurance task has concluded that some of the GNVQ philosophy and practical measures are inappropriate. The negative aspects of GNVQ were summarised as follows:

- High dropouts rate among the students.
- The examinations were based on multiple choice questions which did not give any indications of students competence and practical skills.
- The examinations were for the mandatory units (6 units) only and not for the optional units (6 units) or the key skills units (3 units).
- The content and format of the exams were the same over the period of the four years of implementation. This was brought to the attention of the awarding body, but was not taken into consideration.
- Massive administrative routine and paper work is involved in running the program, which enabled the assessors to provide quality teaching time for the students.
- The pressure from the private and public sectors has increased to conform to training requirements specified by industry. The technological base of the industry required workers to possess not only higher levels of basic skills but also more practical and new skills in critical thinking, problem solving, initiatives and team work.
- The GNVQ and its profile were minimally marketable.

Besides...

The local business and industry have particularly no input in the planning, implementation and evaluation stages of the curriculum.

To facilitate transition into the era of globalisation, to expand enrolment figures for
TICs and to encourage close link with industry, the committee concluded that the GNVQs are not the solution, for they are very general in their content and their curricula need contextualisation to meet industry needs in Oman. A new framework is needed to recognize the broader focus of technical education and that encompasses the full range of career opportunities available in the economy of 21st century. Precisely what form this framework should take is yet to be decided.

Despite several important and many-sided efforts that have been made in recent years to improve technical education, it still remains the “weak link” of the Sultanate’s total higher educational system. Since early 80s, when technical education was first introduced at post-secondary higher education level, different technical educational systems were adapted in the colleges with differing curricula. These curricula have not been evaluated during the period of their implementation. Curriculum evaluation as an integrated process of curriculum planning and development did not get particular attention, neither from the authorities concerned nor from the consulting external bodies. Furthermore, there was minimum thinking involved in mapping the local industry needs of skills and knowledge to enrich the components of technical education curricula.

Factors similar to those mentioned above would stimulate changes in both content and delivery of technical education curriculum and call for renewal of technical and vocational education systems.

**Issues for the Future**

The curriculum of technical education in Oman is considered a national long-term investment with regard to financial and human resources allocated into it. Such an investment should be monitored regularly to improve its efficiency, meet industry expectations, and achieve quality competitiveness.

In an effort to achieve this, vocational and technical education research is being encouraged in Oman, to investigate fundamental questions that reflect change and development in VTE. One such effort is the PhD research funded by MSALVT and carried out at University of Technology, Sydney. The research attempts to answer the question: Is the vocational and technical education curriculum meeting the needs of industry in Oman?

**References**


