Diversifying Technological Dependence

Sri Lanka's pattern of colonial dependence on one source, namely, Great Britain, in the field of trade has changed over the last decade, as we showed in the March 1976 issue of the *Economic Review*. We have diversified our sources of export and import so that we have (at least potentially) a greater degree of bargaining and latitude in trade. A similar process has taken place in technology. Technological growth in Sri Lanka has to a large extent taken place in the state sector and it has been easier to diversify our technological dependence. This is in contrast to certain other countries who because of ties particularly to multinationals of specific areas of origin have continued a form of technological dependence. The remarks below relate briefly how technological dependence has undergone transformation from the early centuries to recent years in Sri Lanka.

The Past

The level of local technology in Sri Lanka before the 16th century was comparable to most societies of the time. In irrigation, we had in the 12th century perhaps the most extensive and integrated system, not witnessed in the rest of the world till nearly the 17th century. Needham has also described the spinning jenny used in traditional Sri Lankan society as one of the earliest examples. Further in the 16th century a Portuguese writer was to report that Sri Lankan guns were the best in the world.

This local technology however was built largely on experience and knowledge based on empirical testing. There was no formal knowledge of physics, mechanics, chemistry etc. which were to guide the development of modern technology in the West during the last three centuries or so. A high knowledge of algebra, the rudiments of trignometry and some practical geometry were undoubtedly known in Sri Lanka in common with the whole South Asian context. These disciplines, as well as those of astronomy, could have been used in the traditional technology.

With the colonial incursion from the 16th century onwards, Sri Lankan society was increasingly exposed to the new technology that was being forged in the West. This technology initially limited to the enclaves in which colonialism penetrated, soon displaced the existing technology. Often the cheaper products of this new technology were imported from the West wiping out local production capacities. Thus was eliminated in the face of cheap mass produced utensils, most of the handicraft industry in Sri Lanka which soon found itself supplying only a small part of the Sri Lankan market. This process not only displaced the old technology, but also displaced the persons engaged therein.

Modern technology in the West evolved from an organic growth from the Western traditional technology and often, technological products of the modern technology were made to fit demands that were created during the craft technology state. However, in the Sri Lankan case, modern technology was introduced at the outset as a total package and did not have any organic interaction with the local technology.

If one were to trace the history of modern technology, the colonial connection and colonial needs became highlighted. Thus the canals of the Dutch which were often improvements of existing Sri Lankan canals were built for the colonial purpose of transporting goods.

Modern Technology

Modern technology as such only enters the scene in the 19th century with the British after the industrial revolution in Britain. The modern technology itself was almost exclusively identified with the colonial presence. The major railway network, as well as the road network and other associated engineering departments, the C.G.R. and the P.W.D. grew up primarily to transport colonial produce to the ports. Similarly the growth of the ports are to be seen in this light. Workshops both public and private also grew up to service this colonial network. Thus grew the Railway Workshops, the Government Factory, the Port Workshops, as well as private firms like Walkers, Walker & Greig, Browns, Colombo Commercial Company etc. whose raison d'etre was fundamentally service to the plantation industry and/or the social classes associated with this industry.

With the gradual sophistication of technology it was necessary also to have a trained cadre of personnel to service this sector. Initially such personnel were skilled or semi-skilled lower rankers who were trained by British personnel themselves. During later times a Technical College was founded exactly duplicating British engineering theory and practice, so that supply of technicians (and later of engineers) to man the British industrial units was assured.

The transfer of British technology to Sri Lanka was not a transfer that resulted in sustained organic technological growth within the country. It was like the colonial economy, a distorted technological transfer with the main emphasis on servicing the technology supplied by the British. Together with this went also the myth of British being the best, not only in its technological products but also in the content of its teaching courses. Thus while the lower middle class consumers would swear that the Raleigh bicycle or the Singer Machine was the best in the world, the upper middle class would speak of the Austin as the best car in the world, whilst the engineering profession would likewise swear that British technical training and qualifications were the best in the world — to be recognised anywhere as such.

Post-Independence Diversification

It was left to the post-independence and post World War II period when

British influence faded for the fallacy of this propaganda to be recognised. Ceylonese moving around the rest of the world found that those personnel in ex-French colonies were saying much the same about French technology being the best, and similarly those in Belgian and American colonies were saying the same of the latter technologies. The efficacy of British engineering education, it was also realised after Britain's entry in the E.E.C., was not that high when the EEC created difficulties about recognising the qualifications of the British.

The modern technological spectrum therefore began to change rapidly after independence and with numerous development plans. Accompanying the new development thrust was a diversification of technological sources away from the British to the American, French, German, Japanese Soviet, Chinese, Yugoslav, Czechoslovak, Rumanian and Indian sources. This was facilitated by the new credit lines made avaliable by these countries. Many of the industries. established in the last few decades were therefore from non-British suppliers. To take the state sector alone, such non-British technology is now evident in the Tyre, Steel, Cement, Flour Mill, Ceramics, Petroleum, Plywood, Paper and Textile factories which amount to a good part of the major state industries. The breaking of colonial ties also resulted in the training of engineers both at the under-graduate and graduate level in non British traditions. Engineering graduates from countries such as U.S.S.R., Poland, France, U.S.A., Japan, East and West Germany, China, Yugoslavia, India, Pakistan, Israel etc. man many positions in today's industrial sector. In addition, many technical personnel with British or Ceylon University backgrounds have had practical training in many of these countries as well.

Thus, although originally technological problems were largely seen through British eyes, this monopoly is now giving way to the multiplicity of technological views available and practised today. To this multiplicity of technologies is added the recent resuscitation of traditional technology, for example under the Divisional Development Council programmes.