SUMMARY OF DISCUSSIONS OF LEAD PAPERS

PARTNERSHIP: THE NATIONAL FRAMEWORK

The origins of modern apprenticeship can be traced to the Industrial Revolution of the mid 18th Century when the training of craftsmen and artisans began to be instituted in a formal way, the principle feature being the contractual obligation of the employer to train the employee in return for service. Another impact of the Industrial Revolution was the gradual involvement of government in the process and control of apprenticeship by defining its various aspects through legislation.

All forms of apprenticeship have similarities. Admission regulations, duration of training, syllabuses, examinations, industrial training, and funds for training are all included in modern legislation. Apprenticeship is usually administered by an organization or council. Where previously the methods of apprenticeship embraced on-the-job training almost exclusively, this has changed to:

(a) formal training in schools in parallel with, or prior to, periods in industry;

(b) both theoretical and practical training being given in certain institutions (e.g. technical schools).

In many countries apprenticeship is controlled on a national basis while state or regional bodies are encouraged to reinforce the national framework.

Four case studies are compared. These are United Kingdom, West Germany, United States of America, and India. India has been chosen in order to delineate and illustrate the evolutionary nature of legislation and implementation in a large, complex, rapidly developing framework.

United Kingdom

Britain has passed through four phases of apprenticeship initiated by the Industrial Revolution and the distinctive periods of post-war problems. The flaws inherent in each phase have induced changes, culminating in the Industrial Training Acts of 1964 and 1973.

The 1964 Act empowered the Minister of Labour to establish, for each type of industry, an Industrial Training Board consisting of representatives from the employers, employees (trade unions) and technical education. Each Board was given the task of organizing training for workers at all levels, funds for this training being raised through the imposition of a levy. These levies varied from one industry to another (e.g. for the Engineering Board it was about 2.5% of the total payroll while, for electricity supply, it was 0.35%). The maximum levy was 3.8%.

As a result of the 1964 Act, the tasks of collecting the mandatory levy and spending the money on training, dominated the policies of the ITBs. Levy/grant schemes became more sophisticated as levy exemption arrangements were adopted. Industry's reaction to the new ITBs varied widely. The engineering industry generally accepted common funding, whereas others campaigned vigorously for the abolition of ITBs.

In 1973 a new Training Act enabled the UK Government to exercise more direct control over industrial training.

A Manpower Services Commission was established and an agency of the Commission - the Training Services Agency (later to become the Training Services Division) - became the co-ordinating body for the ITBs. All operating costs (other than levy-backed grants) were met by central government. Special grants, notably to alleviate unemployment, were channelled through the ITBs to mount training courses. A Training Opportunities Scheme (TOPS) was launched using existing facilities in colleges and training establishments. Government training centres were re-named "Skill Centres" and programmes of young adult training were expanded.

Employers and unions worked in consultation with the ITBs and the Training Services Division (TSD) to reduce the traditional apprenticeship period; a notable example being in the electrical contracting industry where full tradesman status could be given at the age of 19.

During the period 1974 to 1976, industry became increasingly restive over the educational standards of school leavers and the TSD issued a number of consultative documents dealing with the school-to-work interface and the need to provide vocational preparation for young people.

The provision of "link courses", in which school students attended technical colleges for one day a week, became more widespread. These courses allowed students to sample possible careers, provided a diagnostic service, and built foundations for further education courses.

West Germany

The West German system of apprenticeship was historically based on practical training in workshops and vocational training in institutes established by industry. The system is administered by two autonomous organizations, viz:

(i) The German Council for Industry and Commerce which is responsible for the higher levels of training.

(ii) The German Association of Chambers of Artisan Trades which is responsible for craft training.

United States of America

Prior to the National Apprenticeship Act of 1937, the USA witnessed many forms of apprenticeship, ranging from on-the-job training to formal school training and combinations of both. All these apprenticeship schemes were voluntary.

The National Apprenticeship Act authorised and directed the Secretary of Labour to stimulate training for workers through the active

co-operation of industry and the involvement of employers, labour organisations and eminent citizens in establishing standards and training programmes through advisory committees.

The advisory committees were not empowered to levy or raise funds but merely to encourage industrial involvement through public dialogue.

India

Indian apprenticeship can be divided into two historical phases - the pre-independence and post-independence periods.

The former was similar to that of the United Kingdom. The railways took the lead, followed by Defence Departments and, finally, a Board of Apprenticeship Training (BOAT) was established.

After independence, India set up Industrial Training Institutes (ITIs) to organize and implement the various programmes designed to meet urgent manpower requirements. At present, there are 357 such institutes with over 150,000 places in 30 engineering and 22 non-engineering trades.

For engineering trades, the period spent in the ITI is 18 months followed by six months in-plant training. For other courses the period of formal schooling is 12 months. The emphasis of the ITIs is on practical work: of the 3000-hour courses, 2,500 hours are devoted to theory.

In 1956 a National Council for Training in Vocational Trades (NCTVT) was legislated to co-ordinate all aspects of vocational training. Following the work and experience of this Council, the Government of India enacted a new Apprentice Act in 1961 which brought apprenticeship firmly under state control.

The main features of this Act were that for industries with over 500 workers, training centres should be established; for those with less than 500, government institutes would assist in training, with costs being borne equally by the firms and the government.

A second important element was the definition of the ratio of apprentices to workers. This ratio depended on the types of industry, (e.g. 1:1 or 1:2 in engineering, while in textiles the ratio was as low as 1:50 or 1:100).

Lastly, mechanisms for examination and certification of apprentices were established on a country-wide basis making use of local institutional and industrial expertise.

The Legislative Framework

During the seminar lengthy discussions ensued on the legislative framework necessary to sustain industrial training systems. Distinctions were drawn between traditional apprenticeship schemes in which the apprentice has no basic training in the skill he wishes to acquire and industrial systems in which the student has acquired basic education and training but needs to supplement this with industrial experience in a particular skill.

It was agreed that because in different countries, a comprehensive view should be adopted which covers the training requirements of craftsmen, technicians, technologists, graduates and management staff as well as students who may be in any of these categories. The discussion on legislation as outlined in Dr. Chadrakant's lead paper, therefore, refers to this broad spectrum of industrial training.

There is also the concomitant need to consider legislation in the attainment of well defined national industrial and socio-economic goals, taking into account special factors such as the strength of direct or indirect government involvement, the time envisaged for the achievement of these goals, the flexibility of these goals with changing national circumstances and the modes of funding.

It was clear that national goals in many participating member countries were being pursued in the short term with reference to increasing the placement of nationals through control of expatriate work permits, accelerated production of skilled manpower through student attachments, on-the-job training and through a levy/grant system, and the introduction of more practical, compulsory, technical education at many levels, all being measures designed to encourage industry to become more involved with training.

The difficulties experienced by all concerned in the aftermath of such legislation were soon realized: the need for better identification and classification of training areas and the avoidance of overtraining in low priority activities; the acute shortage of industrial places in both quantity and variety and the unwillingness, and probable inability, of indigenously owned small firms to participate in training which often led to their poaching skilled manpower instead of contributing to the national pool. These comments led to examinations of the relative strengths and weaknesses of centralized versus decentralized administration and the mechanism of persuasion rather than coercion for the attainment of better, more effective results.

It was recommended that:

(a) Governments should legislate on industrial training to persuade and, if necessary, compel, industry to be involved with such activity.

(b) All training legislation should accord with the long-term and short-term goals and objectives for national industrial development and should accommodate to periodic changes in these policies with changing circumstances.

(c) Such legislation should seek to remove, as far as possible, the historical impediments to industrial training.

(d) Relevant legislation should be comprehensive, embracing the training of craftsmen, technicians and technologists. However, the point of implementation for a particular country should seek to rectify historical anomalies of types and numbers of skilled workers, and should depend upon the country's current state of development, its manpower projections and the need to establish, in the steady state, appropriate rations of these skills for continuing industrial development.

Machinery of Government

The government has a pivotal role to play in the implementation of training legislation. Besides conditioning attitudes for the proper recognition of technologies and its impact on society, it can foster technologies appropriate to the human and material resources of society.

Central to this theme of congruence between technical training and society, between the training process and its environment, is the need to create a public awareness that the choice of training for crafts and technology is determined in its own right and not as a second best alternative in the absence of the ability to justify academic pursuits. One way of creating this general social understanding might be to infuse technology into basic education at the earliest possible stage in order to bring about an appreciation of design, construction and product fabrication. Another might be to enhance status through national certification and the creation of national associations or societies.

In developing technology appropriate to an evolving economy it may be necessary initially to monitor the importation of equipment to conform to local requirements of parts interchangeability, reliability and common standards of performance. Laws and regulations inhibiting or restricting local production may also need to be reviewed, as should licensing arrangements. When encouraging local initiatives in manufacturing, similar domestic regulation affecting product and performance standardization may need to be enacted. Also it goes without saying that government will also need to provide suitable incentives to motivate and sustain indigenous industries to enable the necessary skilled manpower to be produced.

It is therefore recommended that:

(a) Government should encourage the reform of current social attitudes towards technical training by educating society to the true impact of technology.

(b) Technologies appropriate to the human and material resources of a country should be developed, if necessary, by control of imports and appropriate incentives.

(c) National product and performance standards should be developed covering domestic manufacture and imports.

(d) The quantitative aspects of manpower planning should be supplemented by emphasis on the quality of training. Thus, in addition to the ministry of education, ministries of labour, industry and the environment, should concern themselves with the training process in order to achieve maximum technical effectiveness, improve working conditions and recognize the importance of environmental factors and safety.

Financial Framework

A by-product of the discussions was the examination of the link between training and profitability as was being done in Nigeria. Though these studies are still in their infancy and broad relationships have yet to be determined, preliminary indications point to an effective mechanism for

regulating the different types and levels of training within an enterprise. It was felt that studies of this kind may lead eventually to greater voluntary industrial involvement with training.

As for creating the funds necessary to support national training programmes, several suggestions were advanced including levies and sales taxes. In the latter instance it was further proposed that money should be returned to the various industrial sectors in direct relation to its collection. As far as possible a national, autonomous Board or Council should be charged with making recommendations to government on this matter. It should, also, be empowered to collect and disburse these funds in the sole interest of technical training.

Priority should be given to the training of teachers of technical subjects. This is especially important in the early stages of national development where the higher levels of skills in particular trades may be in short supply. Schemes should be examined which encourage domestic teacher training in conjunction with the secondment of nationals for training abroad, the latter being maintained in balance with expatriates brought in on contract. Where twinning arrangements can be organized, of counterparts twinned with expatriates, this would undoubtedly accelerate national self-sufficiency in the supply and pool of trade, craft and technician teachers.

Technical education must get its proper share of the national education budget. This is a significant responsibility of government, neglected at a nation's peril if industrial development is high on the list of national priorities. There is no reason why some of these funds cannot also be channelled through the autonomous councils already mentioned to mix with funds raised in other ways. Where necessary, government might also absorb the administrative costs of the central organization handling training so that all monies collected from the private sector can be applied to the training function.

Training is required as much for small industries as for large, in rural areas and in urban centres. Extension services may well be the answer for providing this service to small industries in rural settings. Training must be effectively mobilized wherever the facilities are to be found. Possibly the facilities of large industries could be mobilized in the service of smaller ones; conversely the latter might band into industrial associations for effecting economies of scale in training. The disparities of involvement in training may to some extent be rectified by providing grants to organizations in relation to numbers of students and details of activity. Other corrective mechanisms could undoubtedly be devised.

Pursuant to these discussions the following recommendations were proposed:

(a) The levy/grant system might be used as a fiscal device for funding training; the levy might take the form of a direct tax on costs of operation or be related to sales; grants could be given in proportion to the amount of training carried out.

(b) Studies of the effect of training on industrial profitability might be encouraged as a device for promoting voluntary co-operation from industry in the training activity.

(c) A central Council or Board should be vested with substantial autonomy in the regulation of financial matters affecting training.

(d) Technical teacher training should initially be given higher priority and appropriate mechanisms should be developed for accelerating this development.

National Advisory/Co-ordinating Bodies

The preceding discussions inevitably led to a consideration of the best methods for implementing and controlling technical training on a national basis, recognizing on occasion certain regional characteristics. The general consesus was that this was best effected though a Central Council or Training Board organized on a national basis, under government legislation, yet independent of government in its function. Membership was to be drawn from a wide spectrum of society including governmental agencies, employers, trade unions and the training institutions. The Board should have wide powers of control, examination and certification and would enjoy a high degree of fiscal autonomy. On some matters (e.g. manpower planning) it would prepare recommendations for government consideration.

It was recommended therefore that:

(a) Central National Training Boards be established through appropriate statutes.

(b) These Boards should be autonomous and, in particular, should be independent of government direction.

(c) The composition would consist, in approximately equal numbers, of representatives from the appropriate ministries of government (e.g. labour, education, industry, environment, employers' federations; trade, craft and technician unions; the training institutes) and lay representation; due care being given to avoid dominance by any one group.

(d) The terms of reference should include the setting, maintenance and periodic review of training standards; the establishment or priorities in training; involvement with the full spectrum of craft/trade, technician and technologist training; and examinations and certification.

(e) In matters of manpower planning the Board would present its estimates to government for appropriate budgetary and other action.