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Current Issues and Trends in Technical and Vocational Education

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PREFACE

This publication is the eighth in the series entitled "Studies in Technical and Vocational Education" distributed by the Section for Technical and Vocational Education, UNESCO within the framework of UNEVOC Project. UNEVOC is the acronym of UNESCO's International Project on Technical and Vocational Education, which was launched in 1992. This project focuses primarily on the exchange of information, networking and other methods of international co-operation between specialists in technical and vocational education.

This publication is based on the countries' replies to the Second Consultation with the Member States regarding the implementation of the Revised Recommendation concerning Technical and Vocational Education, reported to the General Conference at its twenty seventh session in 1993 and is supplemented by some more recent information from various supporting documents, conference papers, and studies recently contracted within the framework of the International Project for Technical and Vocational Education (UNEVOC).

The contents of the publication, as well as the findings and conclusions made by the author, do not necessarily represent the official view of UNESCO or the experiences quoted by the Governments and their respective institutions.

The designations employed and the presentation of the materials in this publication do not imply the expression of any opinion whatsoever on the part of UNESCO concerning the legal status of any country, territory, city, or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Contributions to this document were from many sources as listed in Annex 1. Our grateful thanks is offered to all those who have contributed in one way or another to this work.

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INTRODUCTION

The Revised Recommendation concerning Technical and Vocational Education, adopted at the eighteen session of the UNESCO General Conference in 1974, became the basic normative instrument for setting standards, for the development and further improvement of training of skilled and competent technical manpower, in accordance with the countries' plans for human resources development, corresponding to their needs.

Continuous monitoring of the implementation of the Revised Recommendation through periodic consultations with the Member States allows the UNESCO secretariat to identify some common issues, trends and growth points, as well as particular countries' problems and constraints in the development of technical and vocational education. These consultations are carried out through special questionnaires, sent periodically to all countries. In order to achieve a more in-depth analysis of the situation in each country, these questionnaires concentrated on a few most essential issues that are common in the majority of the countries.

In 1985 UNESCO distributed its first questionnaire, which yielded responses from 44 Member States, concentrating on the following nine major issues:

- Technical and vocational education in relation to the educational process;
- Policy, Planning and Administration of technical and vocational education;
- Technical and vocational aspects of general education;
- Technical and vocational education as preparation for an occupational field;
- Technical and vocational education as continuing education;
- Educational and vocational guidance;
- The teaching and learning process: methods and materials;
- Staff; and
- International co-operation.

The second UNESCO questionnaire, distributed in 1992, has been designed more selectively, focussing on the following six major areas of concern:

- Vocational guidance and counselling;
- Promoting the access of girls and women to Technical and vocational education;
- The role of technical and vocational education for enhancing rural development;
- Promotion of co-operation between technical/vocational education institutions and industrial enterprises;
- Professional preparation of teachers for technical and vocational education; and
- Strengthening of international co-operation in the field of technical and vocational education.

This publication is partly based on the responses of the Member states to the second consultation, which have been reported at the twenty-seventh session of the UNESCO General Conference in 1993, enhanced by additional information from recently conducted studies and the reports of conferences and meetings, organized under the International Project for Technical

and Vocational Education UNEVOC. Each chapter of the present document is preceded by the quotation of the exact text of the relevant question, for the facility of reference. A total of 55 countries responded to the second questionnaire. A list of the Member States who sent their reports, presented in alphabetical order, is shown in Annex 2.

MAJOR ISSUES AND TRENDS IDENTIFIED IN THE REPLIES RECEIVED FROM MEMBER STATES, ENHANCED BY ADDITIONAL SUPPORTIVE DOCUMENTS

A. Vocational Guidance and Counselling

The first group of questions inquired about the countries' Measures to provide vocational guidance, which is considered to be a very important prerequisite for developing the necessary skills and competencies in technical and vocational education. Until the recent past, educational and vocational guidance was perceived simply as the process of giving students some information about their abilities and the needs of the labour markets, so as to enable them to make appropriate decisions and occupational choices. Nowadays, as the reports of many countries show, the emphasis has shifted towards providing students with generic development competencies to cope more effectively with their continuing development as students, workers and citizens.

While most of the countries responses revealed a certain uniformity in the definition of the basic concept and general objectives of vocational guidance, in some Member States vocational guidance is still considered merely as a system whereby candidates are selected for various occupations. In many countries the vocational guidance covers a wide range of activities designed to help students while attending school to make a vocational choice, and furthermore to assist adults in seeking employment, career development and their further education and training. Throughout the countries, the nature of guidance services is more or less universal, however, the methods differ from level to level and the age groups involved. At lower secondary level, the vocational guidance is usually integrated into subjects such as polytechnical studies or general technical studies or technical orientation, practical arts, initiation to technology, etc. At the upper secondary level it exists as a separate subject with visits to industries, career planning, etc. At both levels this is supported by mass media and concentrates not only on students, but includes parents as well - because of the decisive role they play in the decision of their children. In a number of countries, there is a growing trend to provide educational and vocational counselling and guidance aimed at directing students to appropriate learning opportunities within such flexible systems as bridging courses, modularization and self-study, and the students counselling continues throughout the programme of study. Further advice is offered on career opportunities, retraining necessitated by emerging new technological changes in particular enterprises, and career changes related to community or family requirements.

The second questionnaire on the additional measures taken to implement the Revised Recommendation concerning Technical and Vocational Education contained the following questions relating to this issue:

Question A (1): Please describe briefly the vocational guidance systems and services in your country.

Most of the countries' reports recognize the importance of vocational guidance to provide human resources development. The vocational guidance plays a significant role in the orientation of individuals towards acquisition of practical skills and constructive attitudes towards the world of work, enabling them to pursue specific occupations in various fields. In a number of countries there is a strongly felt need to keep pace with the newly emerging technologies, by providing vocational orientation towards these new technologies; and subsequently -the necessary training and re-training in this area. Several industrialized countries utilize a dual system of guidance, the one operating under the aegis of educational authorities and the other - under labour authorities. In some countries, however, there is no system of guidance at all. Usually, guidance systems are organized at national, regional and institutional level, offering mostly educational and vocational guidance services.

In some countries, almost every secondary school provides access for the students to guidance officers or teacher-counsellors. Their function is to offer advice and assist students in career planning, in the selection of secondary studies appropriate to the vocational goal, providing also educational and occupational information and assessment of potential vocational interests. Emphasis has been placed on the provision of relevant and accurate information to the students , enabling them to make informed and appropriate choices of studies to suit both their vocational needs and their abilities to succeed in the fields of their choice. The provisions include pre-enrollment counselling, vocational and career counselling, educational counselling and educational assessment.

A comprehensive system of vocational guidance has been established in *Austria, Finland, Germany, Poland, and the Ukraine.*

In *Austria,* both educational and vocational guidance take the following form: oral information and discussion between a class and the competent officer; distribution of pamphlets; individual counselling at the school or centre; meeting with parents.

In *Argentina,* groups of technical teachers frequently have dialogue with the final year students of primary schools to interest them in technical education. In *Cuba* legislation was introduced in 1981, establishing a national guidance system under the Ministry of Education.

In *Belgium,* vocational guidance centres offer information regarding different professions and job opportunities in the labour market, they also gather some data from various companies; and counsel students on how to select certain occupational fields according to their personal aptitudes, interests and abilities.

In *Botswana,* educational and vocational guidance is provided in the form of standard courses. The Ministry of Education has a vocational guidance section, which provides career guidance

and organizes at the end of each academic year a "meet employers session" at the polytechnic, to enable graduate students to meet prospective employers.

In *Chile*, the vocational guidance, provided by the Ministry of Education, is based on feedback information from the students, which is analysed in order to introduce some changes in the curriculum. The educational system in Chile allows shifting of the students among general education, science and technology education, and vocational training streams. This provides a flexibility in choosing a professional field that could lead to employment.

In *China*, Vocational orientation is considered as an integral part of the schooling system in China. Vocational guidance services are decentralized at provincial level taking into account the socio-economic needs of local communities. The curriculum contents in general education, promotes linking education to the world of work, by inculcating proper work habits and attitudes. The technical and vocational education system is coordinating narrowly training of skilled manpower with the economic planning which leads to fast transition from training to employment.

In *Colombia*, the General Education curricula prepares all pupils for active life in the world of work, inculcating the development of proper attitudes, work habits and skills. Training of technical manpower in Colombia is provided by three sub-systems:

- Vocational Training;
- Public Technical Education; and
- Private Technical Education.

In *Finland*, student counselling in general education is integrated into various subjects at the lower levels of comprehensive schools. In the middle and upper secondary schools, student counselling is provided in specific lessons included in the curriculum; in personal and small group counselling; by extensive information programmes and job-visiting, as well as by arranging and following up the students' applications for further education. The experimental activities of the secondary education reform include the so-called work-orientation project, which aims at finding out whether work-orientation and career preparation activities can be developed by more efficient student counselling, taking into consideration in its planning and implementation questions of vocational education, career counselling, and student and working life counselling.

In *Italy*, following decentralization, guidance services are provided under the Ministries of Education, Labour, Industry and Agriculture. Guidance services for schools are organized at the regional level and information guides are available for both educational and vocational purposes.

In *the Republic of Korea* there is no separate subject on career guidance, but some elements of vocational guidance are included in such subjects as practical arts, home making, industrial technology. One of the objectives of these subjects is to enable students to choose a career.

In *Kuwait*, at the national level, audiovisual media along with various country-wide societies

and organizations play a pioneering role in providing vocational guidance. Serious efforts are made at the national and institutional levels to induce more positive attitudes towards vocational and manual practice among those inclined to pursue university education.

In *New Zealand*, guidance services rely heavily on information, provided by the Department of Labour. Secondary school inspectors in each region are responsible for reviewing and assessing the work guidance counsellors and career advisers.

In *Nicaragua*, vocational guidance is an integral part of the vocational training programme of the Ministry of Education.

In *Norway*, at the upper secondary schools, one teaching period has to be allocated to guidance and advice and in some vocational lines students are placed in special workshops to get practical contacts with the world of work.

In Norway, at the upper secondary schools, one teaching period is allocated for guidance and advice and in some vocational areas students are placed in special workshops to get some practical contact with the world of work.

In *Poland*, vocational guidance is coordinated at national level by the Central Committee of Vocational Guidance. At local level, employment and social welfare bureaux and school superintendents' offices maintain vocational guidance services.

In *Portugal*, the Ministry of Education provides professional orientation to secondary school pupils - on the basis of psychological tests, conducted by educational counsellors.
There are also some private vocational counsellors in Portugal. While the Ministry of Education promotes linkage of education with the world of work, the transition from school to work is also facilitated by the Ministry of Employment, based on the availability of vacant jobs in the labour market. Vocational guidance services are also extended to adult employees and unemployed - for re-training in various occupational fields.

The guidance services in *Spain* are based on the principle of individual approach; taking account of the personal abilities, interests and aptitudes of the students aiming to prepare each person for the working life. An experimental programme for vocational guidance and counselling, introduced in 1987, was implemented in all primary and secondary schools throughout the country. This programme includes: Tutorial guidance; Educational guidance - extended to schools and school community; Interdisciplinary between school and social environment.

Question A (2). How do guidance services at national, local and institutional level ensure close co-ordination between training, employment and placement services?

Throughout the countries, usually the technical and vocational education institutions have the advantage of securing jobs for their students. Employers often seek out graduates of these institutions, because of their occupatio n al training. On the other hand, technical and vocational

education students acquire the ability to work with tools rather than with people, and therefore are not particularly adept in job search-employment interviews. This necessitate the introduction of some job search training.

In most of the countries the vocational guidance services are provided at national, local and school levels, by the responsibility of the Ministry of Education. In a number of countries, however, some other ministries like the Ministry of Labour, of Industry, of Agriculture, etc. are jointly responsible, along with the Ministry of Education, for the vocational guidance, counselling and orientation of both youth and adults. For example, in *Austria, Denmark, the Republic of Korea and Romania,* the Ministry of Labour provides information on various occupations and job requirements. Similarly, such co-operation in Portugal is extended by the Ministry of Employment; and in Thailand, by the Ministry of Industry, Ministry of Interior and the Ministry of Agriculture.
Many countries recognize the need of individual career counselling - as a systematic process helping individuals to explore various possibilities and options and to decide, with awareness, what do they want to do at different stages of the life span. The individual career counselling, practiced in a number of countries, assist students to establish career goals, to solve various problems and to overcome obstacles. In the countries with free market economy students need information about various occupations and about the labour market in order to establish preferences, and to make decisions with regard to education, training and employment opportunities. This information includes:education and training entry requirements, requirements for certification, working conditions, interoccupational mobility, employment rates, occupational forecasts, etc. Educational, occupational and labour market information is provided in both printed and computerized forms. Computer assisted Career Guidance Systems (CACGS) have been developed during the past twenty years to provide systematic computerized access to a wide range of educational and occupational information.

A typical example is the Canadian system named 'Choices (Career Ware 1992)', developed in two official languages, which is flexible and adaptable to accommodate multiple databases and languages. The Choices system is designed so as to respond to various specific needs of different populations; inculcating the skill of decision making, self-analysis, goal setting and planning, and the development of flexible implementation strategies. These design principles have allowed to adapt 'Choices' for use in Belgium, France, Holland and Turkey, besides the twelve Canadian provinces and territories and twelve states of the United States.

Vocational guidance services are also provided under the direct responsibility, or with the assistance of other national bodies, institutions and organizations like, for example in:

- Argentina - the National Council for Technical Education (CONET);
- Cyprus - the Central Guidance Office;
- Ecuador - the National Council for Vocational Guidance ;
- Greece - the Manpower Employment organization (OAED);
- the Republic of Korea - the Korean Education Development Institute (KEDI) and the Institute for Vocational Research and Training (VOTRI);
- Malta - the Employment and Training Corporation;
- Mauritius - the Industrial Vocational Training Board (IVTB);

- the Netherlands - the Regional Apprenticeship Organizations and the Education, Employment - Liaison Centres (COAs');
- New Zealand - the New Zealand Qualifications Authority;
- Pakistan - the Vocational Guidance cells in the Provincial Labour Departments;
- Spain - the Vocational Training Council and the Regional Commissions for Vocational Guidance;
- Thailand - the Department of Teacher Education, King Mongut Institute of Technology and Rajamangkhala Institute of Technology;
- Zambia - the Students Selection Services Unit at the Department of Technical Education and Vocational Training.

In *Argentina*, the vocational guidance services are under the overall responsibility of the National Council for Technical Education (CONET). These services are decentralized to 48 Units throughout the country, which provide vocational orientation and guidance at school level, under the control of a Secretariat for Vocational Guidance. This Secretariat works in close co-operation at central level, with the Ministry of Labour, which is responsible for the initial training and continuous re-training of the technical manpower. Guidance counsellors are educators, specialized in educational psychology and sociology.

In *Belgium*, vocational guidance centres facilitate the transition from school to work. Companies are represented at qualification tests and exams in schools, in co-operation with the teaching staff. This guarantees smooth transition of graduates to employment.

In *Finland*, a system of student counselling, providing educational and vocational guidance has been created at national, local and institutional level designed to develop in students the capacities needed for study, career planning, and working life. Education and employment authorities participate in arranging student counselling. At the school level specially trained teachers are employed under the authority of the Ministry of Education, and in the employment offices career-advisers are available. A co-operative body of educational and employment authorities, trade unions and employers' organizations (the Council of Career Guidance) has representatives of each interest group.

In *Italy*, educational and vocational guidance activities are organized at the regional level and information guides both for both educational and vocational purposes.

In *Morocco*, the Ministry of Education is responsible for Technical education, while the vocational training is under the jurisdiction of other authorities, e.g. Ministry of Tourism - for hotel catering training, Ministry of Agriculture - for agricultural training, etc. At the school level, professional orientation is conducted under the Ministry of Education directives. Students and parents are provided with information about various professions, occupational opportunities and required qualifications.

The data provided by some reports on the enrolment in technical and vocational education (both full time and part time) show very substantial increases in a number of countries. Female enrollments have also shown significant increases over the past few years. The enrolment ratio of technical and vocational education to general education (including

vocationalized/comprehensive education) varies from country to country. In some countries (Austria, Botswana, Finland, Netherlands, Poland) the proportion of enrollments in technical and vocational education is equal or higher compared with general education.

Question A (3). Please describe how the vocational guidance provided within technical and vocational education:

a) provides information to the students on various employment options;
b) facilitates the transition between education and employment;
c) helps employed adults to choose suitable programmes of continuing education.

The vocational guidance services in many Member States ensure a close co-operation between training and employment placement services, by providing information about employment opportunities in various occupational fields. Links with employers associations, trade unions and private enterprises contribute to determine the actual qualifications for different jobs. Various countries have different approaches to provide a better access to technical and vocational subjects, a diversification of general education, adaptation to the world of work, understanding and use of new technologies, or a range of categorized approaches and priorities. In some industrialized countries, the career guidance programmes in schools incorporate a variety of information resources, including computer assisted systems. These information resources are provided by special Career Centres (Career Planning and Placement Centres). They usually compile available career guidance information and exploration resources, offering them to students, teachers and parents. These centres are used for research, planning, self-exploration, and group sessions, where students receive assistance in such areas as occupational planning, job entry and placement, financial aid information, and further educational opportunities. Some Member States indicated measures for co-ordination between technical and vocational education within the educational system and employment. Co-ordination between technical and vocational education and employment exists in most of them. There are usually stronger links between vocational education (part-time) and employment than full-time technical education and employment.

In *Fiji*, some vocational courses have been offered as optional subjects to the pupils within the age group - form 9 to 13 years; such as woodwork, metalwork, technical drawing, home economics, agricultural science and secretarial studies.The Government has also established some vocational centres attached to secondary schools, which facilitates the professional orientation of children and contributes to the transition from school to work. Some technical and vocational courses provide certain initial skills training; but due to the lack of qualified teaching staff and lack of up-to-date machinery - used in the industry, usually the T.V.E. graduates commencing work receive some further on-the-job training. This fact illustrates the extent, to which the T.V.E. system prepares its graduates for transition to employment.

In *Finland*, the amended Act on Apprenticeship Training makes it possible to implement the system of 'practice contracts'. A practice contract is made between vocational institutions and employers and includes on-the-job training or supervised practice. These contracts are developed with the aim of bringing education and working life closer together and keeping education up to date.

In *Italy*, following decentralization, guidance activities are carried out under the Ministries of Education, Labour, Industry and Agriculture. After decentralization has been introduced, the vocational guidance services are carried out at the provincial level, under a central national co-ordinator.

In *Mexico*, the vocational guidance services offer to general school students information on various professions and employment opportunities in the job market; as well as information about available training programmes. At the National Polytechnic Institute, the vocational guidance is regarded as a basic component of student training. At the school level, educational guidance activities take place through two programmes: school guidance and personal development. The teachers introduce students to the world of work through visits to business and industrial enterprises that offer also opportunities for short periods of on-the-job training.

In *New Zealand*, each secondary school makes provision for educational and vocational guidance and has a guidance counsellor and a career adviser. The education system is supported by the Department of Labour vocational guidance counsellors who work on a consultancy basis with teachers. Universities operate a counselling service only. In Norway, education is build on the basis of curricula co-ordination with practical training.

In *Russia* during 1994 more than a million students appealed to vocational orientation centres for advice in choosing future profession. More than 40,000 adults were given also relevant consultations. The Law of Employment allows to direct the jobless without profession to attend appropriate courses (from two weeks to one year) to improve their skills or enter a new profession at the expenses of the State Employment Fund. 30,000 jobless were trained in new professions in 1992, more than 120,000 in 1993, and approximately 250,000 in 1994, i.e. their number increased nearly 7 times in two years.

In *Spain*, the Vocational Training Council works in close collaboration with certain Employment Services, ensuring the transition from education to employment.There are Regional Commissions for vocational guidance. Their tasks are to adapt the vocational training to the job market requirements of the region, and to provide information about the training opportunities - available at various enterprises.
The transition from schooling to the working life is aided by a special National Plan, encompassing:

- long term training for youth;
- alternating shifts of short training periods;
- special vocational training programmes for drop-outs from the general education system,
- special vocational training programmes for rural areas (adjusted to the local rural needs),
- vocational programmes for re-training in new technological fields, and
- special vocational training programmes, for migrants.

In some countries, (*Cuba, Cyprus, Netherlands, Swaziland and Zimbabwe* for instance), the vocational guidance services invite some specialists from the industrial, business, agricultural and other sectors to deliver lectures at educational establishments or to meet students and

parents and provide first-hand information, which helps towards professional orientation.

The transition between education and employment is facilitated in some countries through special publications. For example, in *Canada*, a rich source of information is offered in the book "JOB FUTURES" - which provides detailed employment forecasts in different occupational fields. In the *Republic of Korea*, information on employment opportunities is regularly published in the "Weekly Employment Information", in addition there is a telephone answering service on job offerings, available 24 hours a day. In *Norway*, a special file on educational and employment opportunities is published regularly as a tool for the counsellors. It is planned to transfer this information to electronic data processing and to update the material centrally. Finland provides vocational counselling also through telephone services.

Besides this, in some of the countries, certain special events are utilized to strengthen the vocational guidance and orientation, such as: the annual trade fairs - in Zimbabwe, the "career days" - in Swaziland, etc.

A number of Member States use a wide range of modalities to adapt their educational systems to lifelong education. In *Indonesia, the Republic of Korea and Kuwait*, for example, stated that lifelong education is included in their educational legislation.

In some countries, such as *Denmark, the Netherlands, and the United Kingdom*, there are also some private vocational guidance agencies, operating along with governmental bodies, trade unions and employers' associations. In many countries the professional orientation and guidance is provided not only to the youth, but also to adults, helping them to re-orient themselves to new occupational fields, or - for the unemployed - to find employment. For example, the Labour Authorities in Finland have special information units for adults' vocational guidance and counselling. Some countries, (*Canada*, for example), provide special advisory services to employers. Other countries, for instance *the Syrian Arab Republic and Finland*, offer special vocational guidance for disabled and handicapped people.

Question A (4). What training is provided to qualify vocational guidance staff?

The qualifications of the vocational guidance personnel vary from country to country. In most cases, some of the teachers at secondary level, both in the general education stream and in the technical and vocational education institutions, act as vocational guidance counsellors. In addition to their basic special and pedagogical training, they have acquired some special knowledge and skills - either with their pre-service teacher training programmes or through special pre-service and in service short term courses, encompassing educational psychology, career guidance, methodology of testing and evaluation, educational media, labour code, theory and practice of decision making, innovative methods of counselling, socio-economic development, management and administration, etc. In some countries, guidance personnel are recruited from persons with qualification in psychology, while counselling is independent and not linked to teaching and administration. In several countries vocational guidance is carried out under the labour authorities by guidance personnel with qualifications in psychology.In many countries teachers - at all educational levels - provide attitudinal support and knowledge to enhance vocational orientation by using various materials, like films, displays, field trips,

dramatizations, simulation and various games, which introduce students to concepts that will expand their occupational awareness.

In *Austria* every full-time school has a *guidance teacher,* whose teaching load is reduced so as to allow time for educational guidance. Both the guidance teacher and the students may call on the services of the 112 full-time school psychologists in regional, provincial and national centres. The assessment of guidance services is routinely performed by the superiors of guidance officers. Further training courses and professional meetings contribute to the improvement of educational guidance.

In *New Zealand*, secondary school inspectors in each region have the responsibility for reviewing and assessing the work of guidance counsellors and career advisors. Each group has three special training days a year to update practices.

In *Finland,* provincial educational consultants draw up an annual report of their area for submission to the National Board of General Education. Statistics of the applications and actual intake into secondary education are prepared annually.

Both teacher - counsellors, and professional career guidance personnel upgrade their competence and experience through periodic meetings, conferences and seminars, sometimes - through attachments/internships, or study tours, organized by professional associations, governmental and private institutions, employers groups, trade unions, etc. A leading authority in this field, promoting international co-operation and exchange of experience is the International Association for Educational and Vocational Guidance IAEVG, which publishes a periodic bulletin.

In some industrialized countries there are special employment service counsellors, whose role is to facilitate the job-seekers in becoming gainfully and optimally employed. Their tasks often demand articulation with rehabilitation personnel and industrial representatives. Some of their services are relevant to school counsellors - aptitude testing, consultation on work-bound students, consultation on potential dropouts, etc. Those countries also employ the services of business and industry personnel. Many industrial counsellors provide effective leadership in stay-in-school campaigns, earn-and-learn programmes, and summer vacation internships.

B. Promoting the Access of Girls and Women to Technical and Vocational Education

The second questionnaire addressed this question, because in spite of the modest improvement in girls' and women's education and employment opportunities in technical and vocational courses, some gender segregation in education, employment and position in the society still exists. In many countries throughout the world, religious traditions, social structures, cultural norms and value systems have caused the inequalities of women in many sectors of the society and restricted their opportunities for effective participation in socio-economic activities. In the present context, women are becoming increasingly aware of their role in the nation building processes and activities, particularly related to economic development, for which technical and

vocational education is critical and crucial.

Since the rapid economic and social development requires greater participation of women in economic activity, legislative moves have helped to remove discrimination in employment. Although many countries' legislation provides equal access to education, women still require more equality of access to technical and vocational education and training. Therefore, the second group of questions inquired about the countries' measures to promote the acquisition of technical and vocational education by girls and women. It contains the following questions under this heading:

Question B (1). Please indicate the existing laws or decrees aiming to eliminate any discrimination, and providing equal access of women and girls at various levels of technical and vocational education.

In many countries equality of access to technical and vocational education is translated into legal provision, but quite often - not applied in practice. Almost all Member States have legal provisions for the equal participation of women and girls into education and in employment. However, many countries need special promotional measures to ensure the genuine equality of sexes. Almost all of them indicated in their reports that according to their constitutions, laws and decrees, there was *no discrimination* against girls and women with regard to their access to education in general, and to technical and vocational education and training in particular. The following countries reported to have legislative provisions for equal rights to technical and vocational education: *Argentina, Austria, Botswana, Bulgaria, Indonesia, Italy, Jordan, Nicaragua, the Republic of Korea, Kuwait, Mexico, New Zealand, Poland, Spain, Ukraine and Zambia.*

In *Australia*, the National Training Board has, since its establishment, pursued a policy that competency standards must not limit access to training and employment on the grounds of gender. In support of this policy, a Technical Guidance document entitled "Eliminating Gender bias in the Development of National Competency Standards" has been issued in 1990.

Belgium, Chad, Mauritius, Swaziland report no special legislative provisions but there is no restriction on the access of girls to technical and vocational education. Austria also reports that the percentage is satisfactory in view of long-standing tradition in this field and no further measures seem to be necessary.

In *India* the implementation of the National Education Policy (NPE 1986) and the recent Programme of Action (POA) resulted in many technical and vocational programmes, offering access to girls and women, that are conducted in over 8,000 institutions such as Industrial/Technical Schools; Agricultural/Veterinary/Animal husbandry/Fisheries/Forestry Schools; Pharmacy/Nursing/Para-medical Schools; Commerce/Accountancy/ Secretarial practice Schools; Arts/Crafts/Dress making Schools; Industrial Training Institutes; Technician Institutes (Polytechnics) and Colleges of Engineering and Technology.

In most reporting States, legal provisions exist for the equal participation of women in technical and vocational education and in employment. In many cases it has been recognized that special promotional measures are required to ensure a genuine equality of sexes. Many reports show progressive increases in the enrolment of women, where it is permitted by law or custom.

Question B (2). What measures have been taken?

a) to attract girls to technical and vocational education;
b) to facilitate the successful completion by female students of their studies in technical and vocational education;
c) to facilitate the adaptation of women workers to new occupations.

To promote equal access of girls to technical and vocational education courses, more effective structure of educational and vocational guidance and counselling services in schools has been provided, along with the need to produce guidance and counselling materials that are carefully and attractively designed to include a variety of information on new and non-traditional/men dominated areas.

Some countries have attempted to change the attitude of parents and society as a whole towards technical and vocational education through a variety of strategies like open houses, special promotional events, print and non-print media, open fora, aiming to keep parents informed about various occupational opportunities for girls in technical and vocational education. The media assists this process by giving a positive emphasis on successful women in non-traditional occupations, promoting new role models for girls. In this respect, many of the countries' reports describe a wide variety of special measures that have been taken, aiming to attract more girls to technical and vocational education; to ensure successful completion of female students to technical and vocational training courses; to facilitate their job placement; and
to assist women workers to adapt to new occupations.

In *Australia* girls and women have been recently encouraged to seek non-traditional careers by programs such as "Tradeswomen on the Move" in which female workers visit schools to talk about their jobs; and Preparatory courses for women in TAFE colleges which offer an introduction to various trades.
In *Estonia* a total of 71 per cent of the teachers in the vocational education system are women, while the percentage of male teachers is about 29 per cent.

In *India*, 104 out of a total of 900 Industrial Training Institutes, preparing skilled manpower for various trades, are set up exclusively for girls and women, specialized in 23 different trades, such as Drafting and Design, Electronics, Bio-technology, Telecommunications, Hotel receptionists, Book binding, Machine mechanics, Architecture, etc. At the same time, the percentage of women trained in Agricultural machinery, remains very low - hardly 4 percent. On the other hand, training in new technologies, like Fibre technology, Laser technology, Robotics, computer programming and use of computers in banking and administration, become increasingly popular among girls and women, who constitute 25 % of the bank employees, for example.

Similarly, in *Pakistan* there are many skill training courses for specific occupations, like tailoring, embroidery work, handicrafts, and food processing, organized by some NGOs especially for girls and women. There also two Technical Training Centres for girls in Punjab and Sindh, organized by the Ministry of Labour, offering one year courses in Radio-electronics, Civil/architectural drawing, and Domestic appliances, besides the 61 Commercial Training Institutes for women, organized under the Provincial Departments of Education. The Government Vocational Teacher Training Institute in Lahore, with high standard facilities, is preparing female technical and vocational instructors for the above trades.

In *Poland, Mexico, Bulgaria, Portugal, Thailand, Mauritius, Canada and Ukraine*, the training of girls as skilled workers for agriculture, light industry, general services, public utilities, trade and public catering, is being constantly expanded in technical and vocational institutions.

In *New Zealand*, women participate equally with men in technical and vocational education but social attitudes have resulted in some women being confined to a narrower range of technical and vocational eduction than men. Various corrective measures are taken,such as workshop sessions - introducing to trade and technical training; introduction courses for women; a public education programme 'Girls can do anything'; FAIR (the Female Apprentice Incentive for Recruitment), a first-year wage subsidy to employers for female apprentices in all trades, except hair-dressing.

The fact that some European and industrial countries did not specify in their reports any special measures - to promote the access of girls and women to technical and vocational education, does <u>not</u> indicate that technical professions are not popular among female students and workers: in their societies it is quite normal for women to participate in all kinds of occupations outside family and domestic activities; they have the same educational opportunities as the men - preparing them for an occupation; and therefore do not need to be encouraged to enter technical and vocational education through special legislative measures.

In *Cuba*, 50 per cent of the enrollment places in the technical and vocational courses are reserved for girls. In *Germany*, during 1989/1990 academic year 50.6 per cent of the students entering vocational courses were female; and the number of young women - occupying predominantly 'male' professions has risen - from 2.5 to 8.5 per cent during the past ten years. More than 210 enterprises have launched special plans to promote women employability.

In *Austria*, there are 3 special counselling centres for girls and women. In *Portugal*, the Ministry of Education offers a special programme - to increase girls' awareness of 'new technologies' and related occupations. The transition of girls from school to work is facilitated by the joint efforts of the Ministry of Employment and the Commission for the Status of Women. In *Belgium*, school drop outs aged from 16 to 18, can follow part-time vocational training.

In *Canada*, the access of girls and women to technical and vocational education courses is promoted by introducing some more flexible entry requirements; the training programmes are tailored to overcome some specific problems experienced by female students; providing financial assistance, transportation facilities and child care - for young mothers. In *Finland*,

girls are awarded extra points in admitting students to some courses in traditionally male dominated professions.

In *Cyprus*, girls make up only 17 per cent of the student population in technical and vocational education, against 59 per cent - in general education. In Costa Rica 28 per cent of the trained work force are women.

In some countries, in conformity with certain traditions, technical and vocational education is regarded predominantly for boys only. In *the Syrian Arab Republic*, females average 10 to 15 per cent of the student population. In *Jordan*, the participation of girls in commercial education is considerably higher than that of boys and the para-medical field is reserved exclusively for girls. In *Benin*, a specific project is promoting the education of girls and providing educational guidance. In *Bahrain*, technical secondary schools are generally not accessible to girls; whereas in *Morocco*, in order to facilitate girls' attendance in technical and vocational institutions, those who live far away are offered separate dormitories for girls. In *Kuwait* women have no access to certain programmes, for example auto-mechanics, under the pretext that they do not correspond to women's nature or physical capabilities. Similarly, in *Bahrain, Greece, Cyprus, Jordan, Italy, Spain* and other countries, tradition of sex-biased technical education still exists. In *the Republic of Korea*, girls occupy 80 per cent of the places in commercial education courses against only 0.2 per cent - in fishery and marine courses. In *Romania*, girls seldom choose to study in the field of petrochemicals or marine technology. *Nicaragua* reports very low interest of girls towards mineralogy or aviation.

Another interesting phenomenon has been recently reported in *the Republic of Korea*: while the number of women in the total labour force there has grown from 35.5 per cent in 1965 to 40.7 percent in 1990, this increase is most significant in the Manufacturing Industry, specifically in the age group between 15 and 20 years. From the total work force, employed in the manufacturing industry, the young employees represent the following distribution by age group and gender:

Age group	Female	Male
15-19	7.0%	3.8%
20-25	21.9%	10.7%

According to the author of the source of this information (Hagen Koo in '*Women Factory Workers in Korea'*), the expansion of the business industry in the Republic of Korea has relied on relatively cheaper female labour mainly in the textiles, electronics and the tourist industries, requiring limited knowledge and simple skills. On the other hand, according to the same author, young women are believed to possess greater patience for some tedious jobs, combined with more nimble fingers and better visual acuity - characteristics that are particularly welcome in sectors such as garment and electronic industries. (And in spite of paying low wages for long working hours in unhealthy, sometimes hazardous conditions, these industries claim they are 'liberating women').

In *Mexico*, some special programmes for girls are provided in domestic arts technology, institutional housekeeping, food technology, etc. For older as well as handicapped workers,

some special training programmes for livelihood skills are developed. Some basic skill training programmes like domestic arts technology, institutional housekeeping, food technology, etc. are available for out-of-school girls.

In *Nigeria*, there is a dwindling number of female students who go from primary up to tertiary level of education as a result of early pregnancy, early marriage, financial constraints, and prejudices. They become unemployed rural women, who are also deprived from borrowing funds on their own, so as to start earning their living. To end their hardships, they need to improve their skills through non-formal education (NFE). It has been observed that out of the 30 states and Abuja, only the old Kano State has good NFE programmes, which need to be implemented throughout the country.

In *Portugal*, the Ministry of Education offers a special programme, aiming to increase girls' awareness of the perspectives of vocational education and to influence some change of their attitudes towards certain professions, especially in the area of 'new technologies' and new occupational fields. The transition of girls from school to work is under the domain of the Ministry of employment and the Commission for the Status of Women both - placing emphasis on the access of women to jobs in the field of Science and Technology, and to many other occupations, such as: home economics, textile, dress making, hotel catering and tourism, electronics and computers.

Some countries' reports indicate certain professional fields which are most popular among female students:

- Jordan - home economics and hotel catering;
- Italy - dietician nurses, typists, secretarial work;
- Niger - child care and nursing;
- Zaire - dressmaking, shop-assistance, hotel catering, secretarial services;
- Mauritius - embroidery, dressmaking, leatherwork, basketry;
- Zambia - female teachers are encouraged to change from teaching academic subjects - receiving special training to teach practical skill subjects.

In *the Ukraine* 250,000 girls annually receive vocational training in about 500 different trades.

In *Mexico*, the Directorate of Technological and Industrial Education offers training opportunities for girls in the fields of tourist industry, administration, pharmaceutical industry, dentistry, radiology, clinical laboratory, bio-chemistry, communication technologies, decorative design and many other professions.

Zimbabwe has taken some special measures to attract more female students to technical and vocational education courses, like the seminars on 'Design of Operational Plan to Promote Women's Participation in Technical Training', organized by the Commonwealth Association of Polytechnics in Africa (CAPA). Graduation of successful female trainees is highlighted by local magazines and through the national media, which motivates more girls to choose some previously male - dominated professions.

Question B (3). How does general education help:

a) to introduce girls and women to the world of work, inculcating useful employable skills;
b) to direct girls who have dropped out of the formal educational system towards vocational training?

Many of the replies describe how general education helps to introduce girls and women to the world of work. There is quite a long tradition of initiation to technology and the world of work in most industrialized countries. In developing countries, it is a much more recent phenomena and, in some cases, still at an experimental stage. Many patterns differ, but the reports show in general that, starting from primary education, such programmes are integrated with other subjects. In lower secondary education, some initiation to technology is introduced in separate subjects and in the upper cycle, it is linked to work experience or specialized training, e.g. - use of computers. In many countries the vocational aspect in general education is promoted through restructuring the curricula so as to expose learners to the world of work, for which general education teachers are well informed and sensitized in gender issues at various stages of their pre-service and in-service teacher training. Some of the reports describe how the contents of general education contributes to introduce girls and women to the world of work; and how early school drop-outs are oriented towards vocational education in training: the reports of Cuba, Italy, Jordan and Mauritius indicate that some technical and vocational initiation is introduced in general education programmes through work-oriented activities, developing proper work habits, and productive skills, preparing school leavers for the world of work, or for further professional training.

In *India* a greater interest in technical and vocational education is promoted through work education - introduced in all grades as an integral part of the general secondary education curricula. It aims to enable students to understand the socio-economic environment through observation, enquiry, experimentation, work practice, while acquiring positive attitudinal changes such as respect for the world of work and workers, self-reliance, cooperation and proper work habits.The Central Social Welfare Board (CSWB) has implemented a special scheme for the deprived groups of women through vocational training programmes for rural, tribal and slum dwelling populations and for school dropouts. Similarly, the Ministry of Agriculture organized the training of women farmers, and the Ministry of Commerce offers short-term training courses in Handloom and Village crafts.

In *Malta*, after the first two years of general secondary education, the girls have two options: to continue in the same course or to enter a trade school. At the end of the fifth year of general secondary education, they have a second opportunity to do technical further education.

In *Mauritius*, early school leavers (drop-outs) who are too young to start apprenticeship training, are recruited in some pre-vocational training centres, to acquire certain pre-vocational skills, so as to enter the world of work or return to school.

In *Morocco*, the contents of the General Education curricula contributes to orient young girls towards the world of work, by offering them studies in the following 3 areas: Information on the components of local communities in all regions of the country, Information about the economy

in each region, and Information about the destiny of young girls in all regions). In order to facilitate girls' participation in technical and vocational education, those who live far away are offered separate dormitories for girls. In order to aid working women to adapt to the requirements of new technologies, they are offered special training which is equal to the training offered for male workers.

It has been observed, that in some countries more girls tend to discontinue schooling (or drop out of primary education) at an earlier age than boys. As a result some girls enter occupations that demand a less basic ground in general education, science, mathematics and technology. This is reflected in the relatively high rate of girls' enrollments in such areas of study as domestic science, commercial and secretarial studies, health, or craft skills. In *Canada*, as well as in *Mexico and the Syrian Arab Republic*, female drop-outs from general education are usually oriented to vocational training.

In *New Zealand*, initial contact with workshop crafts through the school curriculum begins at the intermediate level where 11-12 year old girls and boys in the first form are introduced to designing solutions to simple practical problems and making their designs using materials such as wood, metal, plastics, leather, enamels and cork in a workshop environment. Secondary schools develop courses of increasing difficulty and diversity. The social science syllabus for all fourth form students contains a unit of work called the world of work. In addition, work exploration classes are held for selected fifth and sixth form students, usually on the basis of one day a week. Computers are increasingly being used in many schools and the Department of Education provides advice and support in educational computing to schools.

C. Measures to promote technical and vocational education for enhancing rural development

This group of questions inquired about the countries' measures taken to promote the technical and vocational education in rural areas. Forty three out of the 55 Member States responding to the questionnaire, replied to questions under this heading; some countries considering their small size and predominantly urban setting (like *San Marino, Bahrain, Malta, Kuwait, Cyprus, Switzerland* etc.) have no special measures to promote the development of rural areas. Other countries provide equal technical and vocational education throughout the whole territory, without any difference between rural and urban areas, especially the industrialized countries. The second consultation with the Member States, addressing the issue of the role of technical and vocational education for enhancing rural development, contained the following questions relating to this topic:

Question C (1). Please describe the educational policies and planning at national and regional level, aiming:

a. to adapt technical and vocational education to the needs of local and rural development, meeting the same standards as that offered in urban areas;
b. to orient technical and vocational education to the projected evolution of employment in rural areas.

Some countries reported special measures taken to promote rural development by providing special vocational courses for the rural population: In *Botswana*, some special facilities are available in rural areas and rural women have good opportunities. Maternity benefit is 25 per cent of salary or a bursary for 84 days. In *Chad*, courses outside the normal school time are provided for groups with special needs. During the dry season special courses are arranged for the rural population through correspondence and evening courses. Finland endeavours to provide educational services using distance education for rural people - unable to attend classes due to distance or other constraints.

Continuing education has not yet been developed for the rural needs in Indonesia, and only limited provisions exist in *Mauritius and Mexico*. In *Zimbabwe*, special programmes are arranged for the requirements of the local industry. *Argentina* mentions the use of teaching units in rural areas, where there is insufficient population to justify the establishment of a technical school. The units cover a wide area by moving their location every two years.

In *Canada*, the special measures aiming to enhance rural development, include providing opportunities to rural communities to participate in planning the educational programmes, adjustment of technical and vocational education programmes - delivered in rural areas - to be more sensitive to the local needs, providing greater access for rural youth from remote areas to technical and vocational education courses, including correspondence courses for the rural population.

In *China*, Technical and vocational education in rural areas meets the same standards as in urban areas. Agricultural education plays a very important role for the accelerated rural development through the application of the special 'PLAN LIAOYAN'. Emphases are laid on the modernization of rural agriculture. Rural schools are closely linked with local communities and are directly involved in rural development projects, responding to their needs.

In *Fiji*, the technical and vocational education contributes to the rural development by training students in rural areas for self-employment, inculcating some life skills which are essential for the rural environment. Students in rural areas have been involved in some village construction projects. The multi-craft programmes, which vary from place to place, and train pupils in agriculture, building crafts and home crafts are also contributory to rural development.

In *Finland*, re-employment courses with emphasis on basics and retraining are arranged for unskilled and unemployed workers in rural areas. In *Norway*, provision is made for those who have family responsibilities and for those who have had periods of absence from the labour force such as maternity leave. These groups receive financial support while attending courses offered by the continuing education programme.

In *Germany*, there are one-year technical colleges in agriculture and rural home economics who train future farm managers, as well as two-year colleges, whose graduates become managers of larger farm complexes, or serve as economic and agro-industrial advisers and some of them become later teachers in agricultural vocational schools.

In *India*, the recent government policy is to develop technologies appropriate to and adaptable with the needs of rural, informal and other unorganized sectors. A large number of technical and vocational training programmes are conducted by governmental and voluntary agencies such as Khadi and Village Industries Commission - KVIS; All India Handicrafts Board; the Departments of Rural Development and Human Resources Development. A very popular programme, launched by the Community Polytechnics, is called 'Training of Rural Youth for Self-employment' (TRYSEM), aimed particularly at training school dropouts and some adults living in rural and remote areas.

In *New Zealand*, the Rural Education Activities Programme offers a community - managed and co-ordinated package of education resources based in 13 rural communities. Courses for rural adults are provided by visiting teachers and advisers through on-the-job/ off-the job training.

Question C(2). Please describe briefly those technical and vocational education programmes promoting rural development

Some countries describe how their technical and vocational education programmes contribute to promote rural development: for example, in Costa rica, the National Apprenticeship Training Institute offers special training courses for industry, farming and commerce - in three shifts: morning, afternoon and night, to facilitate the training of both working and unemployed people in the rural areas. In Fiji, students in rural areas are involved in some village construction projects. Their multi-craft training programmes vary from place to place, offering training in agriculture, building crafts and home crafts - all of which contribute to the rural development. In Mexico, the Department for Technological and Industrial Education, supported by provincial administration authorities, contributes to the rural development by introducing some new vocational courses in various regions - corresponding to the needs of the local environment, the availability of necessary resources, and the local needs of skilled manpower. Several countries contribute to their rural development by offering vocational courses in the field of agriculture: *Italy, Nicaragua, Syrian Arab Republic, Swaziland, Turkey, Zaire, Zambia, Romania*, etc.

Depending on the prevailing local needs of skilled manpower, Finland, Guinea and Portugal offer vocational training in forestry, home economics and in agricultural machinery. Agricultural short-term training courses and long term vocational education is offered also in countries with economies, which depend to a great extent on agricultural production:

In *Bangladesh*, the Mirpur Agricultural Training School - a Swiss project of Caritas - conducts 3 years production oriented programmes for rural boys in the operation, repair and maintenance of agricultural machinery;

In *Bolivia* - special agricultural courses are organized by the National Service for Technical and Vocational Education and Training (SENET);

In *Bulgaria*, agricultural education is focused on the needs of the private sector - to develop small scale farming and gradual transition towards market economy.

In *Pakistan*, where some rural areas are not industrialized, except for the newly emerging agro-

based industries, agricultural courses are centered on the introduction of farm machinery.

In *Poland*, the new socio-economic reforms in the whole country require changes also in agricultural education and other branches of vocational training, which are appropriate for rural development. This necessitates introduction of educational innovations corresponding to the needs of rural economy, such as veterinary schools to meet the needs of animal breeding, animal husbandry and veterinary care, as well as schools which provide training in the field of small-scale agricultural mechanization.

In *Portugal*, technical and Vocational Education are considered to be of prior importance for enhancing the rural development. Many professional and vocational schools in the 5 regions of the country offer 3 years vocational courses in various trades for the needs of the local environment. All provincial professional schools in the public and private sectors are independent in all educational, administrative and financial matters. Courses in Agriculture and Forestry, with 36 months duration, prepare agricultural technicians specialized in agricultural management.

In *Thailand*, special training workshops and short courses are organized in the rural areas, aiming to promote appropriate technologies at village level, utilizing locally available materials and indigenous technological methods, which do not require sophisticated machinery and equipment.

In *Zimbabwe*, the private sector has contributed significantly to promote the rural development by establishing small-scale industries in rural and remote areas, for production of agricultural farm machinery, hand tools, ox-driven carts, etc., contributing to reduce the level of unemployment. Appropriate training for the manpower in those rural industries is offered by many Youth Training Centres and Agricultural colleges.

D. Promoting Co-operation between Technical and Vocational Education Institutions and the World of Work

Forty-nine reports addressing this issue described different modalities of co-operation between technical and vocational institutions and various industrial, business, agricultural and other enterprises. Most revealed the bilateral character of this co-operation: both the vocational education system and the enterprises benefitted from their collaborative endeavours. Educational and training institutions benefitted from the physical facilities, machinery and equipment, offered for 'on-the-job' training at their premises, or assisted to equip the educational institutions with valuable equipment and machinery, along with providing the expertise of their specialists for technical advice on curriculum contents or for the design of training programmes, development of software and other instructional materials. Some specialists are also involved in part-time teaching and assist in vocational guidance, counselling, testing and evaluation. Various enterprises benefitted from the training facilities offered by vocational and technical training institutions which provided further education and upgrading of their employees through full-time short courses and part-time evening courses or weekend classes, as well as correspondence courses, instructional television programmes or other instructional materials

developed by teaching personnel at technical and vocational education. Some technical teachers and instructors are offered opportunities to participate in the research work of industrial enterprises, using their high-tech laboratories; or to work on industrial machinery in the production process so as to upgrade their knowledge and skills and keep abreast with new technological developments.

The second questionnaire contained four basic questions under this heading:

Question D (1). Please describe briefly how various enterprises (in industry, agriculture and commerce), have contributed to the development of technical and vocational education programmes and their implementation.

Most of the countries' Technical and Vocational Education systems have either formed effective links with industry and commerce, or are moving in this direction. Never-the-less, it is obvious that in many countries significant gaps between TVE and industry still exist.

In *Australia*, the main thrust is to promote close linkages between the vocational education and training system and industry and to encourage a collaborative approach ensuring that government funded institutions, as well as private and industry providers of technical and vocational education work together to satisfy the training needs of industry and commerce.

In *Austria*, employers' and employees' organizations often provide the idea for new curricula. Training opportunities in industry exist both for apprentices under the dual system and for summer practice for students of technical and vocational institutes. In *Botswana*, permanent joint consultation exists through advisory committees at government and local levels. In Benin, technical commissions are responsible for the development of training programmes. Argentina reports on extensive interchange of specialists between industry and technical education/vocational training. In *Spain*, there is close collaboration with the Ministry of Labour in respect of skill training within the framework of a national manpower training programme. Finland introduced a system of practice contracts. These are made between vocational training centres and institutions and employers and can take the form of on-the-job training, supervised practice or acquisition of work experience. *Mexico* has established within the Technical/Vocational Education Directorate, a sub-directorate responsible for liaison with industry and employers.

In *Mauritius*, personnel from industry are actively involved in training programmes and also serve on the examination boards.

In *Belgium*, many professional organizations participate in determining the curriculum content. Specialists from various enterprises are also involved in the development of instructional materials for technical and vocational education courses. Thanks to the European Social Fund, many T.V.E. institutions acquire materials and equipment in the sector of new technologies, which are considered a priority area. A network of correspondence courses was set up to make up for the lack of some basic training and in-service training.

In *Hungary*, as well as in other central and eastern European countries, the technical and

vocational education, which was based on some large-scale industries with markets in other Eastern European countries, the economic recession and the collapse of the Eastern European markets, suffered a crisis during the transition from centralized to free open market economy. The Hungarian Chamber of Commerce, which brings together 60 chambers, consisting of 16 regional and 48 professional leagues, did not deal with vocational education until 1991. In spite of its financial problems (due to the voluntary membership of companies, many of which can not pay their contributions, nearing bankrupt), the Chamber became a strong advisory body for technical and vocational education, playing the leading role in forming a List of Trades. One of the employers' organizations which has the longest tradition in providing vocational education, is IPOSZ. While it was training 60,000 apprentices in 1938, in 1995 their number is 30,000 - in various craftsman trades.

India offers some successful examples of co-operative training: for instance, some automobile repairs/maintenance workshops in the state Andra Pradesh offer their facilities for some hands-on experience to the students in Automotive technician courses provided in three Government/Private Junior Colleges during the course of training. In Karnataka State, the students of the Clock and Watch Repair course at the Mahantswamy Arts, Science and Commerce College, Hansabani, Dharwar, are sent every year from January to March for 3 months intensive training to the Watch Factory in Bangalore, which offers them free lodging and lunch.

In *the Republic of Korea*, co-operative education has been initiated by the government and according to the Education-Industry Promotion Law, all vocational and technical students should have practical experience in industry as part of their regular courses.
For the period from 1979 to 1991, the following training fields of in-plant training centres have been active: textile - 21 per cent of the students; machinery - 19 per cent; transportation and heavy equipment - 16 per cent; construction and woodworking - 14 per cent; and electronics and communications - 10 per cent.

In *Norway*, the Advisory Council for Vocational Education at the Ministry consists of 13 Members, 10 out of whom represent work organizations and industries. In each county, there is a Vocational Training Committee, the majority of whose members also come from the working life. The industries sponsor the introduction of information technology in schools, especially in the field of technical and vocational education, through some new subjects, like electronics and computer studies. Both basic training and upgrading of adults through training/refresher courses take place at the working place on full-time or part-time basis. Besides the correspondence schools, the Norwegian State Institute of Distance Education is also involved in various T.V/video projects for vocational education, in collaboration with the national broadcasting system.

In *Poland* the practical training of technical and vocational students takes place in school workshops and in enterprises. The weekly number of hours for practical training depends on the area of study. In general, pupils spend 5 to 7 hours in school workshops (up to 14 hours per week for motor mechanics); and undertake practical training of four weeks in various enterprises, as part of the curriculum. In the past the school workshops used to function as small business units in a satisfactory way because they had indemnification rates of remunerative

production and sponsorship by the former state-owned enterprises, providing schools with equipment and raw materials free of charge, which guaranteed a proper level of training and good quality of products. At present, this kind of collaboration ceased to exist and most of the school workshops have given up the practice of production-oriented and profit-making activities, because their products are no longer competitive in the open market.
In *Portugal*, the industrial enterprises offer physical facilities to technical and vocational education students for 3 months practical training, introducing them to the working life at the end of their 3 years professional training (after a total of 9 years of schooling). Vocational training establishments enter into contractual agreement with enterprises, determining the rights and the obligations of the two parties and specifying also the entitlement and the obligations of each trainee.

In *Thailand*, after adopting the Dual System after the German model in 1988, a pilot project started at Ta Luang Technical College, which was sponsored by the cement industry, with technical and financial assistance of the Thai Government and of the German agency for technical assistance GTZ. The project incorporated one day a week training at the college, followed by four days weekly in the industry. The trainees are accepted after completion of Grade 9. The first group of 20 trainees completed the programme in 1991. The project was expanded and in 1993 there were 130 industries in 17 different fields involved in 13 colleges with 550 students.

In *Zimbabwe*, industry and commerce contribute significantly to the development of technical and vocational education through the following endeavours: Each employer contributes 1% of the total wage bill towards training levy (Zimbabwe Manpower Development Fund). The funds are used to finance various training programmes.

The industry provides on-the-job training to complement institutional training (e.g. 20% of the practical training is carried out in the institutes and 80% at work places). Employers release their qualified staff to participate in institutional training on part-time basis for teaching in subject areas, suffering from some shortage of qualified teachers. Employers contribute generously to technical and vocational institutions, offering awards to successful students. Technical and vocational education curriculum is developed jointly with the active participation of industries. Industries offer facilities for apprenticeship training; and for upgrading the skills of workers or training personnel and ministry officials through seminars.

Question D (2). Please describe to what extent technical and vocational education institutions, in cooperation with industrial enterprises, have met the training requirements of new technologies.

Some countries have found an effective way to train their technical manpower in new technologies through cooperation between advanced industries and training establishments, which involves:

- Use of industrial equipment by trainers and educators on company premises;
- implementation of joint, cooperative programmes of research and training management systems as new and existing technologies converge;

- donation of specific equipment to the training institution by industrial and commercial enterprises.

The introduction of information technology in the education process has promoted:

- the development of self-study and distance-learning programmes with open access for new clients and for the remote students;
- a move towards modularisation and compact blocks of study, utilizing resource-based learning;
- linked computerized networks, offering easy access to training-programme knowledge and data, as well as the opportunity of speedy updating of information; and
- the emergence of increasingly effective and efficient administration and management systems of technical and vocational programmes as new and existing technologies converge.

Another area of new technologies introduced within technical and vocational education systems is the computer-assisted learning (CAL). It offers the advantages of self-paced/individual learning, immediate student feedback, increased availability of up-to-date information and reduced teaching load. Some of the advantages of the use of CAL are as follows:

- use in simulators for embedded training;
- increased flexibility of study programmes;
- increased tutor guidance on an industrial basis, linked to accurate monitoring and detailed diagnosis of students' achievements through appropriate software.

In addition to the use of CAL, some countries reported of recent developments in electronic networks and satellite broadcasting, which have positive impact on technical and vocational education, but the high cost of implementation exceeds the financial means of separate institutions or industries, and calls for large scale investments for entire countries.

In most of the industrialized countries, the training in new technologies is provided within the work place, (in some large scale enterprises), or at the premises of technical and vocational training institutions, which are well equipped with the necessary tools to deliver such training. In cases where technical and vocational education institutions lack sufficient equipment, machinery, hardware and software to provide such training, in order to introduce new technologies some large enterprises and corporations provide the necessary funds or equipment and facilities that are needed for co-operative industry/institutional training in the use of new technologies.

In *Canada*, technical and vocational education institutions work in close co-operation with business and industry. This is materialized through industry/education partnerships, private sector training and special labour adjustment measures. Some computer companies contribute largely to the introduction of computers in education by offering equipment and expertise. Continuing education opportunities are offered in the work place, through part-time training and upgrading in post-secondary technical institutions, or through evening or week-end courses, distance education, educational television and special seminars for introducing new

technologies.

In *Japan*, vocational education is adapting to the new social and economic changes and to the newly emerging technologies by developing new courses rather than enlarging the content of the existing courses. For example, the Electro-Mechanical engineering (Mechatronics) Course facilitates students to learn the mechanical and electronics technology in an integrated way. In a course related to such industries as technology of metals and ceramics the new course of instruction covers information on new metals and alloys as well as inorganic materials.

In *the Republic of Korea* the number of workers, attending upgrading and retraining courses in new technologies at in-plant training centres has increased from 5300 in 1986 to 56,400 in 1992.

For developing countries with embryonic industrial infrastructures, such local collaboration can not be easily found. However, many multinational companies have recognized developing countries' special needs to absorb and adapt newly emerging technologies.

A 1992 Ministerial Degree in *Indonesia* strengthened the co-operation between TVE institutions and industrial enterprises in a number of ways: exchange of experience and information on technological developments, dual use of facilities, on-the-job training of students and acquiring work experience by teachers, job placement and a tracer system to receive feedback information from employed graduates and from industry.

The *Malaysian* Government established in 1991 a Cabinet Committee to investigate the new skill requirements of a number of industries, reflecting the future trends of industrial development of Malaysia. This resulted in significant improvement of the technical training programmes and strengthening of linkages between technical and vocational education and industries. For example, the TECHNO-SCHOOL Training programme is a joint venture between the Sultan Abdul Halim Mu'adzam Shah Polytechnic (POLIMAS) and Matsushita Electric Motor (M) Sdn.Bhd.(MAEM). MAEM is a Japanese owned factory producing motors and electrical components. The jointly organized training programme by POLIMAS and MAEM is aiming to upgrade the knowledge of the technical personnel and equip them with 'multi-skills', requiring competencies in both mechanical and electrical engineering areas.

Thailand is a country with relatively low telephone density, compared to other ASEAN countries (in Thailand it is 36 per 1000 population, while in other ASEAN countries it is 90 per 1000). An important economic growth target set for the Seventh Plan (1991-1996) was to expand the basic infrastructure services of telecommunications. To overcome the shortage of skilled technical manpower in this field, in 1993 Telecomasia Corporation Public Company (TA) approached the Department of Vocational Education to assist in the training of technicians and skilled workers so as to reach the target telephone installation figure of two million posts by the end of 1996.

In most Central and Eastern European countries the privatisation of a large part of the economic sector has severed the traditional links between educational systems and the industry. The newly emerging small enterprises usually do not have proper workshops and can offer only a limited

range of training opportunities. Some private organisations are often inclined to discontinue existing vocational training programmes. Some large foreign enterprises entered these countries during the period of privatisation. Since they usually need to employ highly skilled labour that is well trained in the most up-to-date technologies, they organize their own training programmes, but sometimes they also offer opportunities for cooperation with the school system, giving it chance to modernize, (which is the case of Poland, for example).

In *Hungary* the apprenticeship training suffered a severe shock with the collapse of the centrally planned large-scale industry, which resulted in the sudden closure of many factory-based workshops for training of vocational students, sometimes - even in the middle of the school year and many apprentices remained without any place for learning practice. To rectify partially this problem, the State provided special funds to help some schools to buy out certain workshops from the companies. This alleviated the crisis in vocational education and training, but resulted in increased number of school workshops, which is inconsistent with the new Act, which tries to involve more employers in training.

In *Lithuania* the technical and vocational schools curricula introduce primarily those new subject areas that are in high demand, while maintaining some of the traditional and less popular ones. The administration has difficulties to recruit competent teachers and instructors. In the field of printing technologies there is a great demand from the fast developing publishing industry. The vocational printing school has found new partners besides its old partner 'Viltis', who started introducing new printing technologies, and the school, in spite of its old-fashioned, relatively small printing house, manages to earn real income from its production.

UNESCO, in co-operation with the ILO International Training Centre (Turin) has launched in 1993 an initiative to increase the competence of national and regional decision-makers with regard to investment in New Training Technologies (NTT), as well as in their proper selection and use. In order to raise the cost-effectiveness of NTT, UNESCO and ILO initiated through an experts meeting in December 1993 the development of "Guidelines for Selecting and Using of NTT in Technical and Vocational Education". The outcome of this joint venture will facilitate many developing countries to enter into the era of new technologies utilization, based on previous experience and avoiding costly errors.

Question D (3). Please describe various organizational patterns of technical and vocational education, providing training opportunities through full-time or part-time programmes for employees of industrial, agricultural or commercial enterprises.

Many o the responding Member States indicated that facilities vary from a well organized framework of institutions and financial aid for learners to a few evening courses leading to no recognized qualification. Enrolment figures show, however, that there has been an increase in all training facilities. Recent technological developments have made increased demands for mobility and skill diversification on the work-force.

Various organizational patterns of technical and vocational training offered by TVE institutions to employees of industrial, commercial and other enterprises are described in the countries

responses to this question. In Austria, for example, as well as in Germany, the dual apprenticeship system with compulsory part-time education has a long tradition. The length of the courses is extended in case of part-time schooling and shortened for those who have successfully completed some lower stage. Full-time vocational education is organized in courses of one to four year's duration. In Norway, technical and vocational education is based upon two laws: the Act on Upper Secondary Schools and on the Act on Systematic Training within the World of Work (apprenticeship training).

In *Argentina*, most businesses offer salary incentives for staff taking training courses. The co-operation between technical and vocational education and industrial business and other enterprises is based on the dual system of training. Trade Unions representatives and various industries are consulted in the planning of special curricula subjects. The industries provide information and advice on newly emerging technologies, and on the need of re-training of technical manpower.

In *Australia*, an important aspect of the new national training system is the promotion of closer linkages between the institutional providers of vocational education and the industry sector. The recently introduced Competency-Based Training is intended to operate in a way that integrates the work place and off-the-job components of training. This approach results in close involvement between colleges and industry in a collaborative approach to training delivery. Some programmes are college-based but involve periods of work experience in which structured training is provided. Others comprise approximately equal amounts of work-based and college-based learning. Still others are industry-based but some (or all) components of the training are provided in consultation with or directly by college staff at the work place.

In *Bulgaria, Cuba, Finland, Mexico, Nicaragua, Norway, Poland*, and other countries, the entire technical and vocational education system is open to all those in employment and they are entitled to paid study leave. In Finland, the Act on Study Leave improves the opportunities of employed people for education. Continuing education in Finland has no separate authority, being implemented in line with the principles of the entire education system.

In *Italy*, under law 845/78, a modular system of an alternating study/work programme has been experimented. In *Mexico*, as an addition to training for an occupation, social service activities are undertaken for the benefit of the community. Another method of relating theory with practice is provided by external activities such as research, advisory work, consultancy, special studies, installations, construction, design, experiments and testing.

In *New Zealand* there are Community Interest Classes established in line with the Government's policy of encouraging adults to take up apprenticeships. Credit units are given in respect of suitable previous employment experience in these classes, and even university entrance may be obtained by this means for persons over 20 without the need for other academic qualifications. *Nicaragua* mentions the establishment of a sub-system in education for the upgrading and retraining of semi-qualified staff.

In *Poland*, workers are allowed to choose the type of school they wish to enter and are given educational leave of absence from 21 to 28 days per year for participation in classes and for

preparation of examinations.

Spain also reports that their Adult Education Service is making use of modules for vocational training, enabling adults of over 25 to sit for university entrance examinations without any prior qualifications in formal education. Chad indicates that their lifelong education programmes are limited to evening classes.

Question D(4). Please describe various forms of continuing technical and vocational education programmes, offered through:

(a). courses organized at the place of work;
(b). part-time training and upgrading courses at secondary and tertiary level;
(c). evening courses, or week-end courses provided by various training institutions;
(d). correspondence courses;
(e). educational television courses;
(f). periodic seminars; and
(g). inter-enterprise programmes.

Part-time vocational education differs from country to country. Industrialized countries usually maintain a formal apprenticeship system and a full range of shorter courses for workers, conducted in the evenings or at week-ends. Part-time vocational education in developing countries remains sporadic, and less systematized. *Indonesia*, for instance, does not yet have any part-time courses in the formal system. The majority of the reports show that continuing technical and vocational education is offered by a variety of organizations with different interests. Career education is relatively new and courses organized by employers generally tend to serve the latter's interests.

In *Austria* there are many schools offering evening or off-season courses for persons in employment, leading to the same qualifications as their full-time counterparts. There are no age restrictions for these courses. Austria also organizes a number of bridging courses, thereby ensuring articulation with the full-time courses and work experience. Botswana mentions the availability of a full range of fee paying courses.

In *Australia* flexible delivery methods extend the range of ways in which work place training is supported by public institutions, incorporating communication technologies, provision of training materials for various media, direct tutoring services, support provided on a regular basis by work place specialists with occasional visits of institutional teaching staff. Until recently the training market in Australia was dominated by the TAFE colleges. The current need for training of skilled technical manpower exceeded TAFE's capacity to meet the demand and a number of other training providers have been encouraged by the government to enter the training arena. The government's aim is to improve the training market by introducing competition between all training providers so as to improve the quality of training and lower its cost.

Argentina and Mauritius report about part-time courses and the introduction of modular courses. In Argentina such courses are offered in both State and independent universities. Finland reported that the educational system provides for close links between levels and types of

instruction,permitting flexible study regardless of age and possible transfer from vocational schools to higher education.

In *Bangladesh*, organisations like Bangladesh Small and Cottage Corporation (BSCIC) provide enterprise-based and in-service training facilities. The Power Development Board (PDB) has organized training centres for power plant skilled workers employed in the maintenance of transmission and distribution lines.

In *Bulgaria* a great number of firms and institutions (both private and state-owned) offer now opportunities for adult qualification and re-qualification. The training follows the pattern of more advanced countries with experience in training of professionals being in demand in market economies, which proved to be difficult for adaptation to the local conditions, due to the lack of traditions in market economy. Some private firms provide foreign language studies, computer training and courses in management of small businesses.

In *Fiji*, co-operation between technical and vocational education institutions and private enterprises is ensured by the Fiji National Training Council (FNTC), uniting employers, employees and government. All employers contribute financial resources in the form of levy to ensure life-long training opportunities for the employees to attend in-service training programmes. The FNTC subsidizes two types of training schemes:

- providing grants and training for large-scale employers to run in-house training, employing full-time trainers; and
- subsidizing the cost of training outside the companies in recognized training courses in formal, or private institutions.

However, this system is a cause for concern among small-scale employers; since 90 per cent of the establishments have less than 20 employees each (i.e. many small-scale enterprises have to subsidize a few large firms' training programmes). In general, T.V.E. training is provided by two major public institutions - the University of South Pacific and the Fiji Institute of Technology where most of the training is carried out. They are not yet sufficiently adapted to the requirements of the private sector being somehow isolated from the local industry and the business world. Therefore a wide range of short courses is urgently required. At present some very few short courses are available for the current needs of many small firms whose staff needs retraining. Quite timely, some private companies offer commercially computer training programmes which are in great demand. A survey of the Fiji Employers Association revealed that 75 per cent of the employers, who responded to the survey, were prepared to sponsor their employees to attend training courses outside the working hours; but many employers found that the FNTC courses are no longer relevant to the presently prevailing conditions in the industry.

Japanese students attending specialized technical/vocational courses are encouraged to undergo practical training in their field of study, which involves significant periods of time in related industry. For example, students attending fishery courses undertake training voyages lasting several months, those studying nursing undertake clinical practice in hospitals, and sales trainees obtain work experience in department stores.

Technical and vocational education is offered through some forms of distance education, like correspondence courses in *Argentina*, *Finland*, *Mexico and Nicaragua*, and seem to have been particularly well-developed in *New Zealand*.

In *the Republic of Korea*, in addition to formal technical education at vocational high schools and junior colleges, non-formal education is offered in the form of correspondence courses, part-time courses and an open college has been established. Numerous courses are offered to those in employment by the formal school system of the Ministry of Labour and by training centres of other ministries. Enrolment in Air and correspondence high schools and in the Air and correspondence colleges has increased. There are 311 vocational training institutes under the Ministry of Labour offering part-time courses for employed people.

In *Malaysia* the 'Time Sector Privatisation' programme (TSP) allows the industrial sector and the public to utilize training facilities in secondary vocational schools, technical schools and polytechnics. The practice has shown that the TSP programmes are beneficial to both the institutions and the industry or the particular factory involved. There are three TSP programmes:

- Joint Training Programmes, implemented at the institution, which provides workshop facilities and space, while the industries provide financial grants, equipment and technical assistance;
- Customised Training Programmes, implemented according to the needs of a particular industry, with instructional staff coming from either the industry or the institution, utilizing the basic facilities and workshop space of the institution. This training is financed by both the industry and the institution;
- Modular Training Programmes - theses are usually short modular courses offered by individual institutions and by their own instructional staff on their own facilities. Course participants and course fees are determined by the institutions themselves.

In *Mexico*, the Open Education System, the Centre for Continuing education, Educational Television (channel 11) and the Foreign Languages Centre, offer courses for employed workers.

In *San Marino*, the co-operation between technical/vocational education and the industrial sector involves:

- consultation with specialists from various industrial and business enterprises - in the process of curriculum planning; and
- providing facilities for on-the-job training of students in the industrial and other enterprises.

In *Poland* an innovative project in commercial schools is focused on banking business specialization. With the transition to the market economy and Poland's incorporation in the International Monetary Fund and the World Bank, training of technicians for this specific vocation became indispensable. At present more than 100 banks offer financial to the public. The shortage of qualified employees, felt manly by newly opened banks, necessitated the introduction of new pilot curricula in some commercial schools.

In *Spain*, the active co-operation of industrial and other enterprises is achieved through providing training opportunities in the work place - amounting to 400 hours per person - to develop practical skills in real work environment. The government sponsors this skill-training by offering fellowships to students and some financial incentives to the enterprises which provide such training facilities.

A recent event in the *USA* illustrates the co-operation between some industries and the Department of Education: In June 1995, for the second year a National Leadership and Skills Conference of the Vocational Industrial Clubs of America (VICA) was convened in Kansas City, with the participation of 7,000 students, under the sponsorship of the Missouri Department of Education and more than 300 national corporations. The highlight of the conference was the annual 'Skills USA Championship', which succeeded the former 'United States Skills Olympics', in which 3,600 outstanding students competed in 54 different trades, demonstrating their job skills in technical drawing, electronics, precision machining, medical technology, culinary arts, etc.

E. Professional Preparation of Teachers for Technical and Vocational Education

The second consultation of Unesco with the Member States on the additional measures taken to implement the Revised Recommendation on Technical and Vocational Education contained the following four sets of questions relating to this issue:

Question E (1). Are there any established standards for technical and vocational education with regard to:

a) staff qualifications;
b) ratios of teaching and training staff to learners.

Despite variations in patterns, the replies to this question indicated that a university degree plus some form of teacher training or previous teaching experience was required for any secondary level technical teachers particularly for the theoretical subjects of the, curricula where a distinction is made between those who teach theoretical subjects and practical work instructors.

For vocational training instructors, the requirements in most cases were lower than for the technical education teachers. In the majority of cases the requirements included technical training in the subject area concerned, together with some teacher training or teaching experience. Industrial or other work experience was also generally considered as an essential prerequisite.

While many industrialized countries have established national policies for the continuing professional development of technical and vocational teachers, there are countries which do not address this issue. In some more advanced countries the national policies for professional development of teachers focus on modular and distance/open-learning units of study, accreditation of staff development programmes, computer-based learning, mentorship and integrated learning.

Legislation concerning staff qualifications, recruitment procedures, staff development, working conditions and promotion have been reported by *Argentina, Austria, Finland, Germany, Jordan, Italy, the Republic of Korea, Kuwait, Mauritius, New Zealand, Nicaragua, Norway, Poland, Spain, and the Ukraine.*

In *Botswana and Mauritius*, standards for staff qualification follow British standards. The Republic of Korea reports standard-setting responsibilities by the Bureau of Science Education, Bureau of Teacher Education and the Bureau of Educational Facilities.

In *Jamaica* there are technical teacher training programmes leading to a Bachelor degree at college level or to a Diploma in education at teachers' training colleges.

In *Norway*, there three levels of qualification for technical and vocational teachers, achieved respectively through three, four, or six years of training. The four-year training brings the qualification of Bachelors degree and the six-year training course -the Masters degree. Besides this, technical and vocational teachers can be educated:

- by university studies combined with practical pedagogical training;
- by college education; or
- by vocational training combined with practical pedagogical training.

In *Paraguay*, there are several technical teachers training courses, with a total duration of 3,700 hours; 60 per cent devoted to theoretical subjects in the area of special technical and pedagogical subjects, and 40 per cent - to practical training.

In *the Ukraine*, the pre-service training for technical and vocational teachers and workshop instructors comprises special subject training and pedagogical subjects, as follows:
The teachers receive 5,185 hours of training, including: 11 per cent social sciences, 25 per cent fundamental science and general engineering subjects, 45 per cent specialized subjects on vocational training and 19 per cent subjects of psycho-educational cycle. The workshop instructors receive 2,414 hours of training, comprising: 35% for combined socio-economic and general education theoretical subjects, and 65% - for general vocational subjects, special subjects and psycho-pedagogical subjects. Those instructors, who possess less than three years preliminary work experience, are also trained in practical skills in specific areas of work.
Besides this, the workshop instructors attend full-time four-weeks refresher courses at the Ukrainian Institute of Teachers' Advanced Training, or at one of its branches.

The ratio of teaching and training staff to learners varies from country to country, and sometimes - within the country itself, depending on the availability of training facilities, time, space, safety regulations and staff numbers.

Comparative data on the average teacher/students ratio is given in the following table.

Teacher/Students ratio in TVE

Country	Theory classes	Workshop practice	General fig. (unspecified)
Australia	1:30	1:6	
Argentina			1:20 (youth) ; 1:16 (adults)
Bahrain	1:30	1:15	
Benin			1:15
Bolivia	1:30	1:15	
Botswana			1:12 to 1:16
Canada			1:10 to 1:20
Costa Rica			1:15
China			1:19 to 1:16 (a)
Cuba			1:14
Guinea			1:25
Rep. of Korea			1:18 to 1:28
Malaysia			1:20
Malta			1:20
Norway			1:12 to 1:15 (b)
Pakistan			1:40
Romania	1:35	1:10	
San Marino			1:12
Swaziland			1:12 to 1:20
Thailand	1:10 (c)	1:15 (d)	1:30 (e)
Turkey	1:19 (f)	1:21 (g)	1:15 (h)
The Ukraine			1:12
Zaire			1:15
Zambia			1:15
Zimbabwe	1:25	1:12	

Explanatory remarks:

(a) In China the average teacher/students ratio is:
1:9 for specialized secondary schools; and
1:16 for training technical workers; while for secondary vocational schools the ratio depends on relevant standards for these schools.

(b) = for vocational training
(c) = at associate diploma level
(d) = at certificate level
(e) = for short courses
(f) = for Industrial Education
(g) = for Commercial and Tourism Education
(h) = Tech. Voc. Education for girls.

Question E (2). To what extent are professionals from industry and commerce involved in teaching certain programmes in technical and vocational teacher-training institutions?

Many countries have recognized the importance of links between educational institutions and industrial and commercial enterprises in order to provide present and future teachers with practical experience in industry and commerce, thereby assuring that they acquire appropriate knowledge and skills for their teaching. At the same time there are many technical and vocational institutions that make use of more sophisticated equipment in various industrial enterprises and involve competent staff from industries for curriculum development, direct teaching and student assessment - particularly in work practice.

In some countries professionals from the industrial and commercial sector are involved in teaching at various levels of technical and vocational education courses, or in teacher-training institutions. According to the reports such specialists are involved in teaching in the following countries:
Argentina, Austria, Canada, Cuba, Denmark, Finland, Greece, Niger, Norway, Poland, Swaziland, Syria, the United Kingdom, Zambia.

In *Morocco*, Technical and vocational teaching personnel have access to visit business and industrial enterprises - to familiarize themselves with current technologies, but professionals from the enterprises do not interfere in the technical education programmes.

The T.V.E. institutions in *Fiji* are suffering from a brain-drain of qualified teachers. Since 1987 more than 30 per cent of the technical teachers migrated to other countries and many are attracted by better paid positions in the industry. Recruiting specialists from the industrial sector to teach is difficult. Negotiations with New Zealand to provide technical teacher training could solve only partially this problem.

Question E(3). What preparation is provided for technical teachers in terms of:

a) entry qualification to teacher-training programmes;
b) teacher-training programme content;
c) acquisition of theoretical knowledge and practical skills in their technical fields;
d) continuous retraining and upgrading in accordance with technological development;
e) educational administration, evaluation methods, vocational guidance and counselling;
f) ability to teach safe working practice and provide first aid in case of accidents

Staff development is considered important for improving the quality of technical and vocational education. The staff qualification differs considerably between industrialized and developing countries. In industrialized countries qualified technical personnel with several years of employment experience are recruited and given further pedagogical training in well-established in-service training programmes. Developing countries in general suffer from shortages of qualified personnel, despite the establishment of pre-service teacher-training institutions and costly fellowship programmes.

In most of the countries which have been consulted, the qualification requirements for full-time staff are generally in conformity with the Revised Recommendation concerning Technical and Vocational Education. In many countries teaching staff has entered the profession with appropriate academic qualifications but without the necessary practical experience. In other cases, part of the teaching staff lacks the appropriate academic level of training. In both cases there are provisions for upgrading through in-service training of teachers and instructors.

In industrialized countries, the recruitment of qualified technical and vocational teachers with experience in the industry is followed by special in-service programmes oriented towards special subject updating and pedagogical training.

In developing countries, there is a general shortage of both suitably qualified staff, many teachers lack relevant industrial or commercial experience. These countries suffer also from a chronic shortage of adequately trained technical manpower and fail to attract competent and experienced specialists for their educational establishments, due to the low financial incentives in the education sector, in comparison with the in industrial, commercial and service enterprises.

In general, all countries recognize the need of qualified teaching staff, possessing adequate academic and pedagogical qualifications, coupled with practical experience.

In *Bangladesh* the Technical Teacher Training College trains teachers for the polytechnics and other technical and vocational education institutions. The Vocational Teachers Training Institute provides training for the teachers in the vocational stream and for workshop instructors.

In *Benin*, there is a shortage of qualified staff and training is being carried out under bilateral and international fellowship programmes. In *Botswana*, staff development is part of the National Development Plan. In *Chad*, commercial teachers are trained at a higher teacher training institute and some student-teachers have recently been sent for industrial training abroad.

In *Botswana*, City and Guilds courses lead to a teaching certificate. In *Mexico*, distance education systems operate on a regional basis but are controlled centrally, emphasis being laid on practical workshop activities. In *Mauritius*, workshops and seminars are organized by the Ministry of Education in collaboration with the Institute of Education.

In *Finland*, teacher training in different vocational fields has been unified. The course lasts one year and includes general studies, general pedagogical studies, vocational pedagogical studies, and practice teaching (12 to 14 weeks). The Ministry of Education has appointed a committee to draft proposals for a permanent system of in-service training of vocational teachers. The focus is on teaching information and automation technology and the supporting vocational development work of pedagogical institutions.

In *New Zealand*, future teachers may undertake full or part-time secondary level study to gain

subject qualification, followed by a post-secondary one-year full-time courses, leading to a Bachelor of Education (Commercial) or an Advanced National Certificate in Technical Education. These combine tertiary studies in a student's chosen subject area with professional teacher training.

In *Norway,* all teacher training is regulated by the Teacher Training Act. The four-year training may be compared to a Bachelor degree and the six-year course-to a Masters degree. Technical and vocational teachers preparation can be achieved through:

- university studies combined with practical pedagogical training;
- college education;
- vocational training combined with work practice and pedagogical training.

The National Council for Upper Secondary Schools, the State Institute of Technology and the State College for Technical Teachers are responsible for the further education of teachers. The courses concentrate on the introduction of new technologies and on new items in updated curricula.

In *New Zealand*, a scheme of technical refresher leave is available to tutors in technical institutes, to enable them to return to the work-force at regular intervals-to update their knowledge of current techniques and developments. Leave with pay is also granted for one month to a year to attend external courses. Tutor resource centres offer short courses and special training.

In *Pakistan* the Ministry of Education has established a National Technical Teachers Training College (NTTTC) in Islamabad with a credit from the Asian Development Bank (ADB), providing comprehensive teacher training and upgrading programmes, producing teaching/learning resources, and assisting the Government in the planning and management of technical and vocational programmes.

In *the Philippines*, several teacher training institutions offer technical and vocational teachers training programmes, ranging from the undergraduate to Masters and Doctorate levels. All students have to pass a National College Entrance Examination with pass mark sixty. One semester is dedicated for practice teaching.

In *Poland*, vocational teachers receive training in four semesters at a post-secondary teacher-training school. In *the Ukraine*, technical and vocational teachers are trained in universities, training colleges and technical institutes, following curricula, established by the Ministry of Higher and Secondary Special education.

In *Spain* the technical teachers are qualified in some professional fields and also possess some pedagogical and practical skills. They are exposed to life-long training and re-training - for upgrading their knowledge and skills through:

- modular training; and
- on-the-job training in various enterprises, during the vacation period - from July to

September.

Rapid technological progress has required a systematic approach to continuing technical and vocational teachers' upgrading and retraining. Career systems have been established to attract in service teachers to these courses. Some of the countries' reports describe various forms of the further training and continuous upgrading of their technical teaching personnel, in pace with technological development.

In *Austria*, pedagogical institutes offer a wide range of further training courses to teachers in technical and vocational education each year. The average rate of participation in these courses is between two and three days per teacher per year.

In *Benin, Mauritius, and Nicaragua*, conferences, workshops and seminars are organized to update technical teachers in service.

In *Botswana*, fellowships, study leave and financial assistance are granted for teachers' retraining and upgrading.

In *Italy*, courses are organized at national and regional levels, but difficulties have been encountered due to the lack of homogeneity of the groups.

In *Mexico*, a human resource development plan has ben established with three-week courses at the beginning of each semester for updating teachers. Regional training courses are also held to acquaint teachers with new equipment.

In *the Ukraine*, technical teachers have to improve their qualifications every four years through the Institute for Advanced Training and through internships. Refresher courses for specialist teachers are conducted in 28 Teachers Advanced Training Institutes, more than 3,000 workshop instructors attend annually the Institute for Advanced Training -under the State Committee for Vocational Education; and administrators in technical and vocational schools attend also some regional "Schools of Advanced Practice".

According to some of the countries' reports, technical and vocational education administrators and supervisors, professionally associated with teachers, must have the same qualifications as those required for teachers, plus the necessary administrative qualifications, experience and aptitude.

In *Austria*, senior administrative staff in technical and vocational education rise from the ranks of the teaching profession and in-service training is provided. In *Finland*, the requirements for the post of a principal are a teacher's degree, experience in teaching and an examination in administration of vocational education.

In *Benin*, administrators require a university degree and a teacher's certificate. They should be engineers or economists, depending on the type of school.

In *Mauritius*, initial training of administrators is provided at the university and further

training can be received through international fellowships.

In *Mexico*, a training centre for administrative personnel provides refresher courses and further training. Regulations for systematic in-service training are controlled centrally, but courses operate regionally.

In *Norway*, since 1977, courses have been offered to school administrative staff include leadership and administration, environment, school development project and specific training for school administrators. In Poland, officers for the supervision and administration of technical and vocational education ought to be graduates of higher education with at least eight years of educational experience and three years management experience. Their qualifications are upgraded in specialized centres in the form of seminars, conferences and specialized training courses.

In *the Republic of Korea*, no formal standards for administrative personnel exist.
In *Spain*, continuing education for administrators is undertaken by the National School of Public Administration. In *New Zealand*, no formal requirements are stipulated for the qualifications required for the administrative personnel of technical institutes and community colleges. Provision exists for administrative personnel to receive paid leave of absence to undertake studies towards qualifications appropriate to the position held. In Jordan, the minimum requirements are a Bachelor of Science degree and three years' experience.

In some countries, like *Burkina Faso, Chad, Oman and Paraguay*, administrators are recruited from among the most experienced teachers and they usually do not undertake formal training for their administrative duties.

F. International Co-operation in the Field of Technical and Vocational Education

The second consultation of UNESCO with the Member States on the additional measures taken to implement the Revised Recommendation on Technical and Vocational Education, contained three sets of questions addressing this important issue. All responding countries recognized the importance of international co-operation in providing high quality technical and vocational education has been recognized by all Member States. The countries' reports reveal many forms of bilateral and regional co-operation, directly, or through the services of various international agencies and organizations. Some of the information gathered shows how developing countries have learned better from each other, their mutual experience being more relevant and the assistance being less expensive than learning from developed countries.

The international co-operation between some Member States has resulted in innovative approaches, such as:

- Development of modules for teaching and teacher training;
- Use of mobile training teams;
- Inter-country inter- project study visits;

- Production of manuals and other supportive materials on workshop design and installation of equipment;
- Setting up of regional co-operative networks for vocational innovations;
- Organisation of symposia for exchange of experience under UNEVOC Project, etc.

The second questionnaire addressed the Member States with the following sets of questions relating to this issue:

Question F(1). Please, describe briefly the existing mechanism for exchange of information, documentation and materials with other countries.

Most of the reports reveal various forms of international co-operation. The most commonly used modalities of this co-operation are: exchange of teaching staff; study tours; exchange of publications and research findings; exchange of experience in educational management and administration; development of methodologies for policy planning and assessment of students' performance; development of database and information systems; and networking of institutions.

The *Australian* National Commission for UNESCO and the Department of Education's International Cooperation Branch of Australia participate actively in exchange of information through UNESCO, OECD, and the South-East Asian Ministers of Education Organization (SEAMEO).

Austria co-operates bilaterally with countries in the field of technical and vocational education and is an active member of OECD, UNESCO and the Council of Europe.

Botswana has entered into bilateral and multilateral agreements with Germany, South Africa, Sweden, the United Kingdom, and the United States of America for furthering of technical and vocational education.

In *Canada*, most of the international co-operation in the field of technical and vocational education is initiated by the Canadian International Development Agency (CIDA) and through the international activities of the Association of Canadian Community Colleges (ACCC). Canada co-operates, through CIDA, with many developing countries offering them formal technical and vocational education opportunities, project-related training, and scholarships for study in Canada. Most of the international assistance offered by Canada is in Latin America and Africa. It includes teacher training, provision of facilities and equipment, assistance for curriculum development and exchange of information in the field of technical and vocational education and training.

Costa Rica co-operates with governmental and non-governmental organizations on a bilateral and multilateral basis, involving mainly Brazil, Colombia, Germany, Israel, Japan, Mexico, Netherlands, Norway, Spain, Sweden and Venezuela. Germany and Japan have provided assistance in the fields of electronics and computers.

Cyprus has signed many bilateral agreements with other countries and co-operates in the field

of technical and vocational education with UNESCO, the International Labour Organization (ILO), the United Nations Industrial Development Organization (UNIDO), the Council of Europe, and the Commonwealth.

Great Britain is actively co-operating with all 12 nations of the EEC and the 6 countries of EFTA in a programme comprising exchange of information, materials and documents, and exchange of personnel in the field of technical and vocational education.

Mexico is actively collaborating on bilateral basis with: Germany, Japan, Switzerland, Italy, Porto-Rico and the United Kingdom, through exchange of information, documentation, materials and training personnel in various programme areas. Mexico also participates actively in many international co-operative endeavours within the U.N. system.

The recent Latin American experiment in 'cooperative benchmarking' is a typical example of utilizing the experience of large enterprises throughout the region. The 'benchmarking' is a process of learning from others' experiences, avoiding duplication of efforts and taking advantage of what has been already achieved successfully - especially in the area of human resource development.

The Netherlands maintains international co-operation by participating in the Eurodice network, the CEDEFOP documentation network, and in various European networks, such as EUROTECNET, PETRA, IRIS, LINGUA. At bilateral level, the Netherlands co-operates with Belgium, Germany, France and the United Kingdom, mainly through exchange of information, materials, teaching personnel and students.

New Zealand's overseas assistance programme provides an opportunity for training of technical students and teachers. New Zealand interacts with all major international data bases and the government contributes financially to the Technical Information Service (SATIS) which is a National Library operation with outlets in several centres.

Pakistan maintains some international co-operation in the field of technical and vocational education through UNESCO, Colombo Plan Staff College, the Canadian International Development Agency (CIDA) and maintains some working relations with the governments of Germany and Sweden, and the British Council. Eleven provincial polytechnics are assisted by co-operative programme, funded by the Asian Development Bank (ADB).

Spain maintains international co-operation with the European Economic Community (EEC) through exchange of information, documents and personnel, participating in EEC co-operative programmes, such as LINGUA, PETRA, EUROTECNET, EUROFORM, IRIS by sending selected participants to international seminars and conferences in the field of technical and vocational education.

Thailand maintains international co-operation with other South East Asian countries through exchange of information and materials, participation in co-operative research, exchange of teachers and students.

Question F(2). Please describe co-operative programmes and projects undertaken with other countries including:

a) training facilities;
b) facilities for co-operating in research;
c) development of prototype materials and equipment.

Many countries' reports show various forms of co-operation,e.g. exchange of curricula, textbooks, audio-visual aids, computer software, research findings, policy statements, experience in the design of training workshops and equipment, and fellowships.

Fiji has received some assistance from the International Labour Organization (ILO) to revise the curriculum for technical and vocational education, and continues to receive some assistance from Canada, Japan, New Zealand and the United Kingdom, and from the Asian Development Bank (ADB) and the International Bank for Reconstruction and Development (IBRD).

Finland, Denmark, Norway and the Netherlands are involved in a wide range of activities in vocational fields under the framework of the Nordic Council of Ministers. This includes training in small crafts and the development of interrelationships between school and the world of work, as well as regular meetings of teachers' organizations and senior officials.

Italy has undertaken, in collaboration with the European Community Commission, a series of experimental projects for reforming secondary education.

Germany actively participates in many of the EEC co-operative projects: CEDEFOB, PETRA, EUROTECNET, LINGUA and the European Social Fund, as well as in the UNESCO International Project on Technical and Vocational Education (UNEVOC), and co-operates with the ILO, OECD and the World Bank. Germany provides bilateral aid to Bulgaria, the Check Republic, China, France, Israel, Romania, Russia, the Republic of Slovakia, and many developing countries in Africa and Asia, offering students exchange programmes, academic exchange, fellowships, etc.

The Republic of Korea participates in international co-operation through UNESCO, ILO and the Colombo Plan Staff College, and international conferences and seminars. Korea is an active partner in the execution of the UNESCO International Project on Technical and Vocational Education (UNEVOC), and also offers bilateral assistance to Gabon, Ghana, Indonesia, Malaysia, and collaborates with Belgium, Germany, Japan, Norway and the USA in various technical and vocational education programmes.

Lithuania participates in some foreign- support programmes like PHARE, TEMPUS and Soros Foundation. Some of the Lithuanian vocational training programmes are sponsored by Denmark, Sweden, Germany, Austria and Canada. Usually the foreign partners select some pilot trade and business private schools.

Norway takes an active part in various projects of OECD and the Council of Europe. Norway

is party to numerous bilateral cultural agreements which make provisions for mutual exchange of experience.
The following examples illustrate some recent international co-operation programmes, often initiated by technical and vocational institutions, their students and teachers:

- The transfer of Bangkok's "Magic Eyes" anti-littering programme to Rio de Janeiro illustrate how diverse cultures can benefit from the same innovative idea: how to recycle collected discarded materials for recycling while keeping the city clean. While the Bangkok anti-littering programme utilizes cartoon characters with green eyes derived from the Thai mythology, which reduced the littering in Bangkok by an estimated 90 per cent, it is now replicated in Rio de Janeiro as part of the "Clean Rio Campaign" through the Department of Sanitation and the School System, where the enigmatic green eyes of the Thai version are re-interpreted as a cartoon character, appropriate to the Brazilian culture.

- Similarly, the adaptation the of "City Harvest" and the "Small Business Toxic Minimization Programme" from the United States to Brazil illustrates the effectiveness of transferring innovations between countries with different economies and ecosystems. Through the "Small Business Toxic Waste Minimization Programme", environmental engineers, chemical engineers and retired teachers from Los Angeles visit small businesses and help the to find creative ways of reducing toxic waste minimizing their bottom line. In 1992 a transfer to Rio de Janeiro was initiated, where the programme is being tested in automobile garages as part of the Guangabara Bay Depollution Project, funded by the Inter-American Development Bank, involving also vocational education trainees. In 1995 the project was replicated by the Office of the Mayor of Avellenda - a municipality of greater Buenos Aires.

Question F(3). What exchange programmes with other countries exist for:

a) technical teachers and other educational personnel;
b) students.

Argentina is active in international co-operation with ILO and other U.N. agencies, participating in various conferences, study tours, seminars and study visits, fellowship programmes, etc.
Technical and vocational institutions in Argentina work in close co-operation with such institutions in Brazil (through SENAI), in Chile, Uruguay, Paraguay, Venezuela, and other countries. They exchange information and documents, technical literature and professional personnel.

Canada offers educational opportunities for many international students (only in 1988 about 35,000 foreign students enrolled in Canadian colleges and universities). Exchange of faculty members and college students are arranged with some American institutions
for short periods.

Chile cooperates - in the field of technical and vocational education - through exchange of

information, documents, expertise, and instructional materials, with France, Italy, Switzerland, the United Kingdom, Spain, and other countries. Chile also participates in international programmes of U.N. agencies and organizations.

Many *Lithuanian* principals and headmasters and some teachers have been visiting Germany, Sweden, Denmark, Austria and France during 1994-1995. Most of the visits were organized by the Ministry of Education and Culture, being sponsored by the respective host country. The Vilnus Technical College has an ongoing project with the Swedish Also Gymnasium, acquiring equipment for its electrical laboratory.

Morocco maintains bilateral co-operation with other countries and participates in international organizations. Exchanges of teaching personnel, students and instructional materials are maintained with selected African countries. The upgrading and retraining of technical teaching personnel is arranged in France, Italy, Canada, Austria and Belgium.

Portugal participates actively in many co-operative programmes of E.E.C. countries, such as: PETRA, EUROTECNET, EURODYCE, ARION, CONETT, and the Programme for Exchange of Young Workers.

Thailand participates in students exchange programmes with Japan, Republic of Korea and the USA; while the teachers exchange programme is extended to the United Kingdom, Australia and the USA. Besides this, some fellowships are received from Mombusho - Japan, Colombo Plan Staff College (Manila); BIDRO - Indonesia, as well as SEARCA - Malaysia, Israel, Italy, China, the Netherlands and Egypt.

Zimbabwe maintains bilateral links with other countries and benefits from projects, offered by donor agencies:

- receiving equipment for technical end vocational education and training, technical expertise, information and software;
- receiving lecturers for teacher education;
- participating in UN agencies - organized seminars, conferences, workshops, etc., organized by UN agencies;
- Exchange of teaching personnel and students through the Common Wealth Association of Polytechnics (CAPA).

CONCLUSION

In almost all reporting countries, technical and vocational education is seen as a means of human resource development, leading to social and economic progress. Technical and

vocational education has become a vital part of the education system and its role in the democratization of education has been increasingly recognized. Some of the reports underline the role of technical and vocational education in keeping pace with new technological developments and in providing the much needed skilled manpower, especially in the developing countries, many of which indicated that budgetary constraints had limited the full development of technical and vocational education.

While many reports mention the provision of educational and vocational guidance services, most of them indicate that efficient vocational guidance has not been sufficiently introduced. However, some important advances have been achieved in the assessment of the needs of extending the guidance and counselling services beyond the school population: information and advisory services have been offered also to parents, minority groups, migrants, young women and girls; along with extensive career guidance services for unemployed and underemployed adults.

Many countries recognize the need to introduce various forms of continuing education,since full-time pre-service training can not provide all required skills and knowledge to meet the developmental needs. Rapid technological advances in the past decade have further increased the need for relevant training and retraining programmes. The introduction of various incentive schemes, such as work release, study grants, industry or state-sponsored in-service training, coupled with modular instruction techniques and distance education, have been instrumental in consolidating these concepts of continuing and flexible education in the technical and vocational field.

The various measures reported for expansion of technical and vocational education include the increasing participation of women in this field. In many countries, equal access is now the subject of legislation. In countries where generally separate streams are maintained for girls in the education system, special schools and institutions are being established, where women can pursue technical studies in certain fields. A number of reports indicate that attention has been given to the provision of some special facilities for the handicapped, while in a few cases there are ongoing efforts continue to integrate them in mainstream technical and vocational education.

Several reports refer to the introduction of new technologies such as video, television and computers in technical and vocational education, noting that the inclusion of these new technologies in the curricula is essential to enable the trainees to keep pace with scientific and technological advances, especially in the field of computer technology. It is also indicated, that the introduction of new technologies into the education process is costly, and generous contributions of hardware and software by various industrial and commercial enterprises, along with the support of donor agencies and organizations have helped to a great extent.

Most report emphasis the importance of teacher training and describe various measures taken to improve the quality of teacher education. They deal with general questions of teacher-training methodology and curricula, and questions of differences of work- load between teachers of theoretical and of practical subjects are reported frequently. In some countries, these two functions are entrusted to different teachers, while in others there is a tendency to

combine the two functions under one teacher, which is thought to bring better results.

Almost all countries' reports emphasis the importance of international co-operation in the field of technical and vocational education and provide details on the bilateral, regional and international activities in this field. Exchange of information and experience, training activities and institutional linkages are the most common modalities of co-operation. References are also made to UNESCO-implemented projects in individual countries emphasizing the role of regional educational innovation programmes and specifically the network of UNEVOC centres.

The exchange of information is seen as an important area of international co-operation. Curricula, textbooks, audio-visual aids, modular materials, computer software, research findings and policy statements are the most favoured materials for exchange. Fellowships are also appreciated as a useful means of international co-operation. Exchange of information is considered an indispensable element in developing research in technical and vocational education and is being carried out on a large scale.

The international exchange of vocational teachers and students marks the beginning of an international mobility of labour at all levels, with many countries reliant to some extent on the remittances from their nationals working abroad. Countries, exporting more highly educated and better trained personnel gain more than those exporting unskilled or semi-skilled labour.

Annex 1.

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Annex 2

LIST OF MEMBER STATES AND NON-MEMBER STATE WHICH REPLIED TO THE SECOND QUESTIONNAIRE

Member States

Argentina
Austria
Bahrain
Belgium
Benin
Bolivia
Botswana
Bulgaria
Canada
Chad
China
Chile
Colombia
Costa Rica
Cuba
Cyprus
Denmark
Ecuador
El Salvador
Fiji
Finland
Germany
Greece
Guinea
Indonesia
Italy
Jordan
Kuwait
Malaysia
Malta
Mauritius
Mexico
Morocco
Netherlands
New Zealand
Nicaragua
Niger
Norway
Pakistan
Poland
Portugal
Republic of Korea
Romania
San Marino
Spain
Swaziland
Switzerland
Syrian Arab Republic
Thailand
Turkey
Ukraine
Zaire
Zambia
Zimbabwe

Non-Member State

United Kingdom