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REPORT FROM THE COMMISSION

TO THE COUNCIL, THE EUROPEAN PARLIAMENT AND THE ECONOMIC AND SOCIAL COMMITTEE

EC EDUCATION & TRAINING PROGRAMMES 1986-1992

Results and achievements : an overview

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PART I

Introduction

I.1 INTRODUCTION

The European Community programmes in the field of education and training have aroused considerable interest in the Member States of the Community, and indeed outside it. At a time when there is much public debate about the added value of Community action, and growing recognition of the need to bring the Community closer to its citizens, it is opportune to take stock of the collective impact of the programmes to date. This review is therefore intended to provide a useful backcloth to the proposals for the future configuration of the programmes which the Commission has to present by the end of 1993.

The frontier-free Community which will exist as of January 1993 will open up new opportunities for the citizens of the Community to move to live, work and study in other Member States. The completion of the internal market will also trigger off even more joint ventures in a wide range of fields, economic, social, and cultural. Cooperation at multiple levels through the many actors and bodies involved will provide the basis for the mutual trust which is essential to future collective and shared endeavours at EC level. Tapping the grass-roots and ensuring 'bottom-up' involvement in building the Community is widely perceived as a growing priority.

Moreover, once the Treaty of Maastricht is ratified, its new provisions, notably Articles 126 and 127, will introduce a clear basis for reinforced cooperation in the field of education and training as a complement to the measures taken by Member States themselves to promote the quality of their education and training systems and to develop a commitment to lifelong learning.

Education and training is a cohesive force for economic and social development which touches all spheres of European Community development. The experience of the European Community programmes, documented in this paper, illustrates how education and training underpins other initiatives, for example in regional development, industrial growth and innovation, and research and technological development. This report concentrates on the specific education and training programmes launched during 1986-92, but readers should also take into account the education and training component within those other policy areas, particularly in research and technological development, where the Second and Third Framework Programmes have incorporated education and diffusion activities (notably the specific programme "Human Capital and Mobility").

The stakes are high. Without investment in the skills and versatility of the present and future workforce, the Community will not be competitive on the world stage. Equally, without a high quality education service throughout the Community, the cohesiveness of the EC will be impaired and the capacity to act together in harmonious (but not harmonised) concert will be endangered.

Women too will play a vital role. For too long many women have not had the opportunity to develop their potential in the labour market. They have been concentrated in a narrow range of industries, often in low-skilled jobs with few opportunities for training and promotion. The future economic prosperity of the Community is closely linked to unlocking women's potential through ensuring greater access to and take-up of training.

Young people especially hold the key to the future of Europe. They need to be equipped to play their part in building their Europe. Many young people already have an international and European outlook as well as a commitment to their own local, regional, and national identity. The demand from young people to be involved in joint European projects on a practical basis is massive.

This brief overview will, it is hoped, show that over the past five years the Community has made a positive start, with the active collaboration of all Member States, in building the basis of a substantial long-term collaborative effort in these fields. This now needs to be developed further in partnership with all the different actors, at national, regional and local levels. The public, private and voluntary sectors are all involved and have shared in the pooling of experience and mounting of joint projects at Community level. They have welcomed and responded enthusiastically to the transnational cooperation between the different national systems and play a full part in the cross-fertilization of ideas and exchange of experience. The richness and diversity of national and regional systems and practices have not only been protected in this voluntary process but have served to stimulate new thinking about future lines of policy and practice.

In preparing and implementing the programmes, the Commission has been able to draw upon the guidance of the Education Committee in the Council and also of its statutory Advisory Committee on Vocational Training. Each specific programme also has its own committee consisting of national representatives, and in several cases representatives of the social partners, which have ensured that the programmes are implemented and monitored in ways which are complementary to and supportive of policies in the Member States.

In policy terms, the overall direction of development has been towards greater synergy and rationalisation. In terms of synergy, for example, the experience of programme development has contributed significantly to the thinking underlying the Community Initiative Programmes, in particular EUROFORM, which has in turn provided complementary support for FORCE and EUROTECNET. With regard to rationalisation, the Commission has been sensitive to areas where convergence is possible (eg through the amalgamation of the FORCE and EUROTECNET Committees, and the integration of the young workers' exchanges within the framework of PETRA), a process which was clearly formulated in the Commission's Memorandum on Rationalisation of Training Programmes presented in August 1990.

I.2 THE LAUNCHING OF COMMUNITY PROGRAMMES

The original impetus for the education and training programmes stems in part from the Action Programme in the field of Education agreed by the Council and Ministers of Education in 1976 and in part from the application of Article 128 of the Treaty of Rome. These decisions of Ministers of Education set out the central aims of Community action as well as the priority areas for attention, notably :

- the promotion of closer relations between the education and training systems in Europe
- increased cooperation between universities and institutions of higher education
- improved possibilities for academic recognition of diplomas and periods of study
- encouragement of the freedom of movement of teachers, students and researchers
- the achievement of equal opportunity for access to education.

The progressive development of the 1976 Education Action Programme sowed the seeds for the introduction of a range of specific action programmes launched at Community level from 1986 onwards. The range and character of the action programmes reflected the common concerns already identified in 1976 but were a clear development out of them in so far as they were responding to a Community which was developing with a new dynamism and purpose. That new dynamic was particularly evident in the agreement to establish the Single Market and its timetable for completion, the development of the necessary human resources being quickly considered to be an essential pre-requisite for enabling the Market to function and fulfil its true potential.

Each programme was problem-centered in terms of its initial motivation and *raison d'être*.

- 1986 saw the launch of **COMETT** (*Programme on cooperation between universities and industry regarding training in the field of technology*), the first large scale programme launched in this area. It was conceived quite deliberately as an education and training counterpart to the ESPRIT programme in research and development and aimed to create greater synergy between university and industry with a view to improving the quality of training to master technological change.
- The **ERASMUS** programme (*European Community action scheme for the Mobility of University Students*) was set up in 1987. It aimed at promoting cooperation between universities in order to bring about greater mutual recognition of qualifications as well as to encourage much greater mobility of students and staff between institutions throughout the Community. The Commission set a target of 10% for the mobility of students within the EC.
- **EUROTECNET** (*Action programme to promote innovation in the field of vocational training resulting from technological change in the European Community*) had its origins in the 1983 Council Resolution setting training policies for the 1980s, and, building on a 3-year preparatory phase, became formalised from 1990 as a programme addressing the impact of technological change on qualification systems and on training methodologies.
- From 1988, **PETRA** (*Action Programme for the vocational training of young people and their preparation for adult and working life*) grew directly out of the previous Community Action Programme on the transition of young people from school to adult and working life, and was designed to take account in particular of concerns arising from high youth unemployment by setting new standards for initial vocational training in the Community.
- **Youth for Europe** (*Action programme for the promotion of youth exchanges in the Community*) was formalised in 1988 as a focus for a range of initiatives designed to give an impulse for out-of-school exchanges of young people and had its origins in the Adonino Report on a People's Europe adopted by the European Council in 1985.
- **IRIS** (*European Network of Vocational Training Projects for Women*) grew out of the 1987 Council Recommendation on access by women to vocational training by creating a European network to support innovation in vocational training directed at the more effective participation of women.
- **LINGUA** (*Action Programme to promote foreign language competence in the European Community*) focused on the growing concern about the Achilles heel of so many Community efforts, namely the need for more citizens to be able to communicate through at least two languages other than their own.
- In 1990, the Community launched the **TEMPUS** scheme (*Trans-European Mobility Scheme for University Studies*), designed to support the transformation of the higher education systems

in Central and Eastern European countries. This scheme is an integral part of the PHARE Programme set up by the Community to provide assistance in the economic and social restructuring of Central and Eastern European countries.

- In 1991, **FORCE** (*Action Programme for the development of continuing vocational training in the European Community*) was launched, focusing on policy development, innovation, and exchange of experience regarding continuing vocational training.

A comparatively recent development has been the opening of COMETT (since 1990) and ERASMUS (since 1992) to the participation of the EFTA countries, thereby enhancing the truly trans-European nature of these programmes. The European Economic Area agreement, once it has entered into force, will entail opening all EC education and training programmes to EFTA participation from 1 January 1995.

The range of programmes is summarised in Table 1.

TABLE 1: EC EDUCATION AND TRAINING PROGRAMMES			
Short title	Full title	Duration	Budget execution up to 1992 (MECU)
COMETT	Programme on cooperation between universities and industry regarding training in the field of technology	1986-94	206,6
ERASMUS	European Community action scheme for the Mobility of University Students	1987-	307,5
PETRA	Action Programme for the vocational training of young people and their preparation for adult and working life	1988-94	79,7
YOUTH FOR EUROPE	Action programme for the promotion of youth exchanges in the Community - "Youth for Europe" programme	1988-1994	32,2
IRIS	European Network of Vocational Training Projects for Women	1988-93	0,75
EUROTECNET	Action programme to promote innovation in the field of vocational training resulting from technological change in the European Community	1990-94	7,0
LINGUA	Action Programme to promote foreign language competence in the European Community	1990-94	68,8
TEMPUS	Trans-European Mobility Scheme for University Studies	1990-94	194
FORCE	Action Programme for the development of continuing vocational training in the European Community	1991-94	31,3

I.3 INSTRUMENTS OF COOPERATION

In the design of all the programmes, the catalytic role of Community action has been fostered by using three main instruments (illustrated in Tables 3-5 on the following pages):

- firstly, **networking**, i.e. the creation of transnational networks of persons and organisations facing similar problems and similar issues so as to promote the organised exchange of ideas and dissemination of good practice (see Table 2);

- ▶ secondly, **mobility and exchange**, i.e. the active encouragement of staff and students to gain direct experience in another Member State and also to promote lasting collaboration between the education and training institutions involved (see Table 3);
- ▶ thirdly, the mounting of **joint transnational projects**, i.e. projects between partners in different Member States which are committed to the organised transfer of innovative approaches to education and training problems in a European framework (see Table 4) and the introduction of a European dimension to the content of training.

All the programmes have contributed directly and indirectly to the fostering of contacts and interaction between policy-makers at different levels in the Member States. There has been growing interest in understanding and comparing the functioning of the education and training systems of the Member States. It is also important to note that, outside the framework of the programmes, the Commission has supported a wide variety of complementary measures, such as studies and support for meetings, conferences and European associations in the field of education and training. These actions have contributed, through exchange of experience and opinion formulation, to building up an informed and sensitive basis for Community action in education and training, building on the rich diversity of experience and know-how available in the different regions of the Community.

The very positive grass-roots response to the Community programmes indicates that the Commission has succeeded in tapping a vast fund of interest and goodwill towards trans-European collaboration in this area in many institutions throughout the education and training system. Indeed, achievements in this area are due in large measure to the enthusiasm and commitment which individual staff members, students, employers, trade unions, and policy makers in the different Member States have shown. This is an important point for the future. The quantitative impact of the programmes has of course been limited as they have still only existed for a limited period. The Community actions are complementary to what must primarily be a responsibility of the Member States. An indication of the proportion of EC funds allocated to them is set out in Table 5 below.

TABLE 5: EXPENDITURE ON EDUCATION AND TRAINING PROGRAMMES / EUROPEAN SOCIAL FUND / R&D PROGRAMMES as a percentage of overall European Community expenditure							
Activity	1987	1988	1989	1990	1991	1992	TOTAL
Education & Training	0.20	0.16	0.27	0.38	0.51	0.57	0.38
European Social Fund	7.30	6.61	7.65	8.77	7.71	8.10	7.74
Research & Development	2.92	2.42	3.26	3.76	2.64	4.03	3.22
CEC TOTAL	100	100	100	100	100	100	100

The extent of the quantitative results is a reflection of the relatively modest sums of money which have been invested in the programmes. The catalytic effect of the Community programmes has been demonstrated by the complementary funding made available by Member States, regions, companies and individual educational establishments, a very wide audience has been reached already, with generally very positive and useful effects. For example, nearly every Higher Education institution in the Community has been involved in a Community programme and the cumulative level of student mobility within the Community (including both EC and nationally funded mobility) progressing significantly towards the 10% ERASMUS target (i.e. one in ten of all students in higher education).

Table 2 : Networks, Structures and Systems

COMETT	• Network of 205 industry-university consortia (10,000 members) covering all regions of EC/EFTA and most advanced technology areas • Development of a European-wide infrastructure for organisation of student placements (7,000 annually) • Experimentation of new European wide distance learning structures and of advanced training tools (3,000 training packages) • Network of COMETT Information Centres covering all Member States and EFTA countries • Creation of sectoral networks (e.g. Agro-food, Automobile, Software Engineering)
ERASMUS	• Exchange network of over 1,900 Inter-University Cooperation Programmes, involving nearly 1200 higher education institutions in inter-university cooperation and providing the structures for student mobility • European Community Credit Transfer System for the European recognition of transferable course credits, currently involving over 140 universities in 5 different areas • Creation of European higher education associations, with wide disciplinary coverage • Networks of National Grant-Awarding Authorities (NGAAs) and National Academic Recognition Information Centres (NARICs) in all EC and EFTA countries • Legislative changes in many countries to facilitate mobility
PETRA	• European Network of Training Partnerships (ENTP - 392 training projects) • Cooperation network of national bodies responsible for vocational guidance • Network of National Coordination Units
YOUTH FOR EUROPE	• Youth exchange infrastructure in Europe, involving 14 National Agencies and European Non-Governmental Organisations
IRIS	• Network of 468 training projects for women in new technology, technical areas, and enterprise education, addressed to women returners, unemployed women, and women career development • Full on-line project database
EUROTECNET	• Network of 277 innovative demonstration projects spanning the key technologies; development and dissemination of models, instruments, and materials • Network of specialists in innovative training approaches
LINGUA	• Exchange network involving over 200 Inter-University Cooperation Programmes • Network of National Agencies • Several hundred language training consortia; creation of completely new networks of organizations involved in language training. • Thousands of partnerships involving schools and vocational training institutions.
TEMPUS	• Network of 637 Joint European Projects (JEPs) designed to upgrade and re-structure higher education in 10 Central and Eastern European countries, and involving 1,800 institutions East and West • Network of National TEMPUS Offices in the countries of Central & Eastern Europe, and of National TEMPUS contact points in EC Member States
FORCE	• Network of 430 transnational projects bringing together 3,000 enterprises, social partners, and training organisations • Network of National Coordination Units • Collection of available data on and development of coherent European statistics regarding continuing vocational training in firms • Establishment of common framework of guidelines for continuing vocational training and qualification structures

Table 3 : Mobility and Exchange	
COMETT	• Transnational exchanges currently amount to 7,000 per year, mostly student placements in industry (as well as some industry-university staff exchanges) • Overall COMETT mobility actions will have involved over 30,000 persons for substantial periods (average 6 months) • Implicit mobility in other components of the programme (preparation of and attendance at courses, visits) leads to an additional 3,000 substantial travels a year • Emergence of industry-driven student mobility schemes
ERASMUS	• Inter-university mobility of students amounts to 40,000 (without LINGUA students) for an average of 7 months (target is 150,000 per annum) • Staff mobility programmes currently involve up to 5,000 people a year. • Visits and courses imply an additional 5,000 substantial travels per year.
PETRA	• Annual training placements and youth initiatives currently involve 9000 young people a year (overall target by 1994 = 100,000) • Mobility of trainers and of training establishments
YOUTH FOR EUROPE	• Youth exchanges (normally 1-3 weeks). Phase I: about 80,000 young people. Phase II: estimated at 100,000 young people (first year: about 35,000)
IRIS	• Funding of exchange visits between IRIS projects (12 project hosts and 72 project officers involved each year)
EUROTECNET	• Bilateral and multilateral exchanges of scientific specialists (350-400 persons annually) between EUROTECNET projects
LINGUA	• Language student exchanges currently of the order of 6-7,000 per annum. • Training placements of language teachers : over 4000 per year • Exchanges and meetings of about 30,000 young people annually in vocational, professional, and general education • Visits of language trainers and personnel officers in industry to their counterparts in other Member States
TEMPUS	• Mobility of students so far about 6,500 (mainly East => West) • Mobility of staff about 10,500 (of which two-thirds West => East)
FORCE	• 850 human resources/training managers, social partners, and trainers involved in 1-3 month exchanges • 430 transnational training projects involving short-term mobility amongst the 3,000 project organisations participating

Table 4 : Projects and Actions	
COMETT	• Development of specific training related studies and analyses (about 300) • 1000 training projects that will directly train some 150,000 people through 7000 courses and indirectly reach (use of training packages) some 500,000 (30,000 companies benefitting) • Creation of some 3,000 training packages in all advanced technology areas
ERASMUS	• Currently 140 joint intensive courses a year • Cooperation towards joint development of new curricula (170 projects)
PETRA	• 959 projects involved in transnational training partnerships • 900 youth initiative projects • 75,000 young people and 10,000 staff involved in these projects • Cooperation between more than 70 research institutes grouped into 28 transnational thematic partnerships
YOUTH FOR EUROPE	• In Phase I, about 2,000 youth exchange projects • About 25 study visits and 10 European-level training courses involving around 700 youth workers
IRIS	• 468 training projects • Exchange of information on innovative training projects through quarterly bulletins, IRIS database, and training seminars • Funding for project partnerships (13 in 1991), exchange visits (12 host projects in 1991), and publicity grants (7 in 1991)
EUROTECNET	• Exchange of information on 277 innovative training projects initiated by Member States • Dissemination of results through more than 100 specialised seminars annually
LINGUA	• Training of over 4,000 language teachers • Development of hundreds of language training/learning packages aimed at the workforce in industry
TEMPUS	• 637 projects, mainly concerned with higher education curriculum development, mobility, and upgrading of facilities, and enhancement of education-industry links
FORCE	• 225 pilot projects for the design of innovative training initiatives • 120 qualifications projects concerned with determining the qualification requirements for all levels of the workforce at company, sectoral, regional, and national levels

With regard to policy development, the main impact has been two-fold:

- ▶ the combined effect of the Community programmes has led to greatly increased awareness of the importance and potential value of trans-national education and training activity within the Community at all levels, from technical and vocational school to university, and provided frameworks and instruments within which such activities can extend and develop; and
- ▶ increased trans-national dialogue and activity has led in turn to a growing recognition that, diversity notwithstanding, many of the policy issues are common to all or most Member States and that there is much to be gained from joint discussion, analysis, and development of new solutions.

More widely, individual institutions have come to recognise that, increasingly, excellence and quality can only be achieved through contact with the wider European scene, both because this is what students and future employers expect and because the constant search for improved performance, at whatever level, requires adaptation to European parameters. An extensive pattern of expert bodies has underpinned the Commission's work in implementing an increasingly wide range of programmes and actions. Their work has often gone far beyond the formal advisory function at Community level, allowing the programmes to develop in specific Member States in a way which is sensitive to local structures and traditions.

PART II

The Programmes and their achievements

II.1 INCREASED MOBILITY AND COOPERATION IN EDUCATION AND TRAINING

Transnational mobility of students, young people and personnel is a major investment for the long term, and features strongly within the EC programmes fostering intensive cross-border cooperation. Mobility has far-reaching effects on individuals, especially young persons, and organisations as well as the educational and scientific systems within which they develop. The programmes have not only been major contributors to mobility, but have had considerable impact on the conditions for mobility and cooperation more generally, for example with regard to national legislation and funding for spending periods of study in another Member State.

II.1.1 Specific mobility programmes, both for students and staff

All but one of the programmes involve student and trainee mobility, and the majority also provide for mobility of personnel, in particular of teachers and trainers. Mobility actions started predominantly in the higher education area, but then moved into other sectors such as youth exchange. The positive effects of mobility are seen in the enhanced career prospects of the individual beneficiaries and in the feedback effect on the structures and curricula for professional/vocational training in the participating countries.

- *The programmes not only promote individual mobility, but also promote training which entails mobility, e.g. the ERASMUS and LINGUA emphasis on integrated programmes where mobility is part of an organised scheme of study leading to a recognised qualification (e.g. dual or joint degree schemes, modular Master's qualifications), and the COMETT promotion of integrated work placements in other Member States.*

Quantitatively, it is estimated that over 260,000 students and trainees, about 18,000 young people, and almost 8,500 teachers and training personnel have benefited from the EC programmes since their inception. In ERASMUS, the percentage of students studying abroad has progressed from 0.5% to 4%, with the result that the total percentage of students studying abroad is now between 6 and 7%. This is significant progress towards the 10% mobility target set under ERASMUS. Additionally, considerable numbers have benefited by participation in courses based on European cooperation (e.g. an estimated 130,000 in COMETT alone).

Under the YOUTH FOR EUROPE and PETRA programmes, youth exchanges give experience of economic, social and cultural life of other countries at a formative stage (in many cases, related to preparation for working life). The period of initial training forms an important part of young people's socialisation during which attitudes and aspirations take distinct shape. Almost all the young people participating in such exchanges are taking part in an exchange for the first time in their lives.

- *FORCE provides grants to those involved inside companies in the development of continuing vocational training, such as human resource and training department managers, personnel representatives, and trainers.*

- *The extensions to EFTA countries (COMETT, ERASMUS) and the involvement of Central and Eastern Europe (TEMPUS) also have a significant impact on perceptions of a broader Europe.*

II.1.2 European experience through transnational education and training

- *For the majority who do not participate in exchanges, the programmes are increasingly providing a European dimension, through curricula and teaching materials prepared as a result of transnational European cooperation. This is explicitly provided for in all programmes, but in particular COMETT, ERASMUS, TEMPUS, and PETRA.*
- *Work within LINGUA underpins these activities by strengthening the language competence which is the means of cultural interchange and understanding.*

II.1.3 Creation of European Networks

Promoting collaborative partnerships as a way of raising quality and effectiveness has been a guiding principle in the design of the EC programmes generally and in individual project design. Many different types of network have emerged as a result of the incentives given by the EC programmes. They give shape and durability to the cooperation which has developed.

- *The 207 COMETT higher education-industry consortia provide a supply-demand interface for advanced training for technology, based on a combined regional and sectoral approach. They are market-oriented and provide a service from training needs analysis through to training delivery.*
- *Work under FORCE directly contributes to a better understanding of the training market, through a close network of transnational partnerships and through policy study on continuing training generally and in specific areas such as the significance of qualifications in collective bargaining.*
- *The ERASMUS/LINGUA inter-university cooperation programmes and university associations have been instrumental in bringing together networks across a whole range of subjects, including highly specialised fields in the humanities and social sciences which have become difficult to sustain in every country, but which can thrive if brought together in a larger network.*
- *In PETRA, the multiplier role of projects involved in the European Network of Training Partnerships and the network of National Coordination Units, backed up by the PETRA/SYS database, have created new opportunities for the development and exchange of innovative training for young people.*
- *The IRIS Network has facilitated cooperation between projects focused on the training of women, especially disadvantaged women whose training needs are often neglected. The IRIS Fair "Women, a Vital Resource", held in October 1992, attracted over 500 participants from all over the Community.*
- *YOUTH FOR EUROPE, through its study visit scheme and pilot courses for youth workers, has created a network of multipliers providing guidance and training for youth workers involved in youth exchanges.*
- *The network of EUROTECNET projects, structured through National Animation and Dissemination Units and supported by an online database (ECHO, CORDIS) ensures widespread dissemination of innovative approaches.*

II.1.4 Enhancing the quality of mobility

Quantitative increases in mobility are not an end in themselves. The EC programmes therefore attach great importance to enhancing the quality of the mobility actions or exchanges supported.

- ▶ *PETRA has promoted validated and accredited youth training abroad, as opposed to short exchanges or visits, work experience to which young people and industry attach lower value.*
- ▶ *The ERASMUS, COMETT and LINGUA Programmes insist on recognised and accredited learning while studying or undertaking industrial placement abroad. ERASMUS and LINGUA teaching staff exchange programmes emphasize integrated teaching inputs which are part of the regular course programme at the receiving institution.*

All the programmes attach importance to in-depth evaluation of the actions supported, as a force for quality improvement. Evaluation here encompasses methods for assessing projects at both application and implementation stages.

The selection of projects has brought together within the various programmes teams of experts who themselves provide a unique blend of expertise to advise on project development as well as ongoing programme policy.

- ▶ *In PETRA the elaboration of new training units or modules includes work on common assessment methods and certification, with the effectiveness of training modules tested as part of transnational exchanges. In ERASMUS, parallel academic assessment has been developed, with simultaneous examinations which take account of time differences between countries.*
- ▶ *YOUTH FOR EUROPE has led to the development of transnational evaluation methods for youth-related projects.*
- ▶ *ERASMUS has contracted an independent research institute to conduct regular surveys on participating students and institutions.*
- ▶ *all the programmes have adopted measures to ensure improved dissemination of information on good practice among participating institutions and to those setting up new cooperative projects.*

II.1.5 Promoting a better framework for mobility

The EC programmes have sought to stimulate the market for mobility by ensuring that citizens are well informed about the benefits of mobility and on the practical aspects involved. Many programmes have promoted mobility indirectly and thereby improved the conditions under which mobility can occur in the future.

Due to the volume of student mobility furthered by ERASMUS, COMETT, TEMPUS and LINGUA, far greater attention is now being paid by higher education institutions to underpinning arrangements such as reception facilities, academic and professional guidance, language preparation, social security and health. National authorities have lessened or eliminated obstacles to mobility, in particular with regard to academic recognition of study abroad and the extension of student financial support to cover study abroad.

- ▶ As a result of the stimulus given to higher education by COMETT and ERASMUS, many higher education institutions have now equipped themselves with specialist offices and officers offering expert advice on mobility and European cooperation generally. These bodies have become veritable resource centres on the full range of EC funding possibilities, including R&D in particular.
- ▶ PETRA's networking of vocational guidance centres will help inform young people of opportunities for professional/vocational training abroad and so create attitudes and expectations which are likely to make them more favourable towards mobility in the future.
- ▶ ERASMUS research on the career impact of study abroad is influential in demonstrating the professional benefits arising from student mobility.

II.1.6 Impacts on national legislation/practice and pooling of experience

The experience and dynamic generated by the EC programmes has contributed indirectly to encouraging legislative and other changes within national training systems. The volume and variety of European cooperation now means that there is a greater awareness in national systems of the need to evaluate practice elsewhere before designing reforms. The result is a voluntary pooling of experience in support of policy development in every country. This has also led to review and improvement of arrangements to support transnational collaboration and eliminate obstacles to cooperation at European level within the Member States.

The PETRA programme as a whole is constructed around a common framework of guidelines for policy development in the vocational training of young people, enhancing the capacity of vocational training systems to adapt to rapid change.

Member States have used the opportunities presented by the PETRA Programme to build a Community dimension into major national initiatives such as the baccalauréat professionnel in France, the reform of the istituti professionali in Italy, and the introduction of a new type of vocational school (escolas profissionais) in Portugal.

- ▶ The biennial report by FORCE on the continuing vocational training situation in Member States is a valuable instrument allowing transparency and the convergence of initiatives across the Community. FORCE provides those concerned with policy development at national and local level with an invaluable comparative analytical framework on continuing training policies and legislation.
- ▶ Through the experience of YOUTH FOR EUROPE, a European dimension in the training of youth workers is now accepted within some national systems.
- ▶ The quality and quantity of experience of study abroad within ERASMUS, COMETT, LINGUA, and PETRA have influenced the formulation of regulations on study abroad and finance for study abroad, as well as leading to the review of specific aspects of national provision on health and social security.
- ▶ The transnational research partnerships launched under PETRA, to look at the effectiveness of current policy and practice in initial vocational training, is informing planners and decision-makers, enabling them to compare results on issues of common concern and to capitalise on convergent trends in planning future provision. Also, through promoting cooperation between the national vocational guidance systems, PETRA is making initial vocational training systems more transparent.

- ▶ ERASMUS has led participating countries to review their legislation and student aid arrangements for undertaking study abroad. It has also stimulated the creation of a whole range of transnational or complementary qualifications and has been a focus for experimentation and study reform. Recently, it has also given rise to a Member State drive to synchronise academic years in order to facilitate student mobility and inter-university cooperation.

The PETRA programme as a whole is constructed around a common framework of guidelines for policy development in the vocational training of young people, in particular around the vocational training guarantee for young people.

- ▶ COMETT has drawn attention to obstacles to student placements in industry abroad and led to legislative changes to facilitate such placement.
- ▶ TEMPUS is assisting countries from Central and Eastern Europe to re-structure their higher education systems through institutional cooperation between East and West (higher education institutions, industry).

II.2 CONTRIBUTING TO INCREASED EUROPEAN COMPETITIVENESS

The education and training programmes have as one of their common aims increasing European competitiveness. There is a growing consensus throughout the European Community, as in other parts of the world, that so-called "intangible capital" is the most vital resource of advanced economies, without which the natural endowments of nations, their financial power and fixed capital will become dwindling resources. This is not only a question of the acquisition of new skills and knowledge, but also of organisational and innovation capacity, today expressed in the complex networks of information and alliances, through which nations and enterprises compete.

II.2.1 Improving the quality and quantity of professional/vocational qualification

The quality of the vocational qualification of the Community's workforce is an essential production factor. Its further enhancement is crucial for developing and maintaining the competitiveness of firms, both in the global market (since the Community has limited material resources) and in the Internal Market, which will lead to re-structuring at national and international levels and thereby call for new skills for workers.

- ▶ The increasing commitment of the social partners is evident. Their interest in training needs analysis is reflected in their extensive involvement in FORCE projects, in particular those concerned with innovative training approaches.
- ▶ Through its extensive higher education-industry links, COMETT is contributing directly to the supply of high-quality collaborative training products as well as to the creation of infrastructures for their marketing and dissemination.
- ▶ Many EUROTECNET projects demonstrate the link within companies between learning effectiveness and economic competitiveness and contain actions for improving the quality of teaching staff and trainers.

II.2.2 Linking education and training with economic life and competitive realities

Creating channels for dialogue and mutual understanding between education/training and economic life, and the provision of financial incentives for specific training projects linking these two sectors, are two approaches used in all programmes. There is particular concern to ensure that small and medium-sized companies (SMEs) are well represented in this process, particularly in the context of the Commission's experimental training actions on "Preparing SMEs for the Europe of 1992" launched in 1989.

COMETT supports consortia, exchanges and training projects involving industry and higher education which together constitute a flexible and durable resource for responding to industry's training needs, short and long-term. 70% of the COMETT projects have SME participation!

Community-wide partnerships in FORCE concerned with workforce training for implementation of total quality systems or European standards and directives are a direct response to the Single Market realities in the business world. A specific study within EUROTECNET has illustrated how learning is a strategic weapon for enterprises ("Learning Organisation"), and PETRA also works intensively to achieve transnational partnerships for youth training at the workplace.

- ▶ *PETRA, COMETT, ERASMUS and LINGUA are major supporters of industrial placements in companies, with an estimated 105,000 young people benefiting in the 3-year period 1992-94.*
- ▶ *The specific action line in LINGUA oriented towards enhancement of language competence at the workplace has generated a wealth of innovative approaches to this key issue.*
- ▶ *In the broader Europe, TEMPUS is assisting in the transformation of higher education systems in Central and Eastern European countries to face new economic imperatives, and the projects supported are increasingly featuring partnership with industry.*

II.2.3 Targeting specific sectors of importance

It is necessary to match programme implementation to constantly changing requirements within the Community. To this end, certain priority areas or sectors have been identified within the specific programmes.

In the industry-oriented programmes (COMETT, FORCE, PETRA, EUROTECNET in particular), the small and medium-sized enterprises (SMEs) remain a top priority. This takes several forms, including (i) sensitising SMEs to the importance of training, (ii) favouring SME participation in projects, (iii) selecting projects which are developing training specifically for SME personnel, and (iv) targeting sectors and regions where industry consists almost exclusively of SMEs.

- ▶ *The wide range of skills and training needs analysis undertaken by the Community in respect of particular sectors and regions has been based extensively on consortia developed within COMETT and FORCE. FORCE sectoral surveys of training plans concern the retail, automobile repair, and agro-food sectors, while projects are also underway in numerous other sectors, such as road transport, aerospace, and consumer electronics. Certain work within EUROTECNET also has had a strong sectoral focus, for example in the financial services sector.*
- ▶ *IRIS assists in developing specific methodology to attract and retain women in scientific and technical occupations.*
- ▶ *TEMPUS has explicit priority sectors which are defined by the eligible countries in the light of national economic requirements.*

II.2.4 Exploiting the results of R&D

Several of the programmes, particularly those concerned with higher education, have complemented the Community's R&TD effort by providing mechanisms for the transfer and exploitation of their results. Close interaction with the Commission services responsible for R&D has been particularly evident in COMETT, where the assessment of applications as well as project follow-up involve extensive collaboration.

- ▶ *In FORCE, COMETT, and ERASMUS, many of the basic partnerships are also active in the R&D area and, where they involve companies, can be well-placed to exploit the results emanating from programmes such as BRITE/EURAM, ESPRIT, DELTA, and RACE.*
- ▶ *In COMETT, several of the technology-based consortia have been supported to run specific short-course programmes for the transfer of R&D results. More broadly, the IRDAC report on Skills Shortages in Europe recommended that the COMETT consortia should provide a focus for such work.*
- ▶ *In the context of Community support for the development of the European Information Market (INFO EURO ACCESS), trial actions have been launched jointly between IMPACT II (training the trainers and sectoral higher education-industry partnerships) on the one hand and COMETT and EUROTECNET on the other hand.*

II.2.5 Broadening the Community's competence in foreign languages

Foreign language competence has well been called the Achilles heel of the Community. The effective construction of the Community depends to a large extent on greater mutual knowledge and comprehension amongst individuals, and this means wider and deeper mutual knowledge of cultures and languages. The international transfer of information taking place in the education and training programmes has in itself been a boost for foreign language learning.

- ▶ *From the earliest stages of education, exchanges are being organised through PETRA and YOUTH FOR EUROPE which tackle language barriers by bringing together young people within projects which encourage linguistic exchange and learning. This helps young people to gain confidence and improve their language competence at a key point in their development.*

The stimulus given to mobility and cooperation by the EC programmes has meant that sending and receiving organisations have become far more aware of the need to prepare their students and trainees in an organised and professional manner. Language training centres and special language courses are growing in importance as a result.

The LINGUA programme, the core of the Community's language training efforts, concentrates on enhancing competence in the less widely taught languages but is impacting on the development of competence in all Community languages. LINGUA is already beginning to have demonstrable results in enhancing the initial and in-service training of language teachers, analysing and responding to needs in specific sectors of industry, and broaching the particular difficulty of improving language-learning in the vocational training sector.

- ▶ *The development of integrated programmes within ERASMUS has meant that language acquisition and study abroad are no longer the prerogative of language and humanities students alone. Degree schemes combining language learning within other disciplines (e.g. Engineering, Law) are now widespread and provide multiple competence which is highly valued by employers. ERASMUS has led to an increase in the number of institutions providing part of the course teaching in a language other than the native vernacular.*
- ▶ *There is budget provision across the programmes for the costs incurred in language preparation, whether as earmarked grants for students and trainers (e.g. in COMETT, ERASMUS, FORCE and TEMPUS) or as block grants to the institutions involved (e.g. in TEMPUS), and awareness of the need to provide such preparation is an important selection criterion.*
- ▶ *COMETT supports multi-language versions of specific training materials and the adaptation of existing high-quality courses for use in other languages.*
- ▶ *Growth of involvement of the smaller of the Member States in cooperation has also meant that training establishments have had to widen their training provision beyond the high-demand languages. The association of the EFTA countries (COMETT, ERASMUS) as well as the Central and Eastern European countries (TEMPUS) is also contributing to a renaissance of interest in the languages of those countries.*

II.2.6 European training and qualifications markets

The education and training programmes are playing a major role in the development and awareness of European training and qualifications markets. As the Single Market takes effect, Europeans will train, be qualified and work in an increasingly unified economic space. The programmes have become instrumental both in training manpower with a European profile and in stimulating the emergence of new forms of qualifications awarded on the basis of transnational study and partnerships within the Community. Furthermore, and alongside existing national qualifications "markets", grass-roots cooperation in regions, economic sectors, and cross-frontier zones is creating new local sub-markets, and cooperation between them is extending their scope and effectiveness; the education and training programmes have provided many training organisations - including employer and employee organisations - with their first opportunities for working in a truly European context.

- ▶ *The synoptic tables produced by FORCE on the arrangements within the various Member States for continuing training and qualifications provide a basis for further analysis and development.*

- ▶ *COMETT-supported European continuing education projects provide experience which feeds back into (traditionally more nationally inspired) initial education curricula.*

II.2.7 Provision of a European Community dimension in training

The EC programmes contribute powerfully to the growth of a European marketplace for training, through the introduction of a European dimension, the stimulation of transnational cooperation and partnership, and the promotion of mutual understanding of systems. All of the programmes have in some way fostered the European dimension in training, from initial vocational training to continuing and advanced vocational training and higher education.

- ▶ *FORCE projects are specifically designed for a Europe-wide market of comparability and mutual recognition while at the same time having an impact on national qualification systems.*
- ▶ *ERASMUS and COMETT are strongly reinforcing the European orientation of higher education systems, whether by influencing national policies or through their stimulus for European strategies within individual higher education institutions.*
- ▶ *Thanks to YOUTH FOR EUROPE, the European dimension in training of youth workers is now accepted within some national systems.*

II.2.8 Analysing skills needs in a European setting

Analysis, comprehension and, if possible, anticipation of emerging skills requirements are now seen to be very desirable in the context of planning training as an element in economic development. Through the partnership of all parties concerned, the programmes have highlighted the need for such analysis, supported structures for carrying it out and assisted in disseminating its results.

COMETT higher education-industry partnerships (UETPs) provide a standing framework of training providers and their clientele, examining technology training requirements by sector and region. Their work has stimulated better understanding of interacting local and global trends as well as improving the methodological skills of those undertaking training needs analysis.

FORCE has paid special attention to SME requirements by determining qualification needs within that sector and through the sector-by-sector comparison.

IRIS has addressed skills shortages in technical occupations by promoting training methodology specifically adapted for women (guidance, pre-training, assertiveness).

- ▶ *EUROTECNET has developed new models and instruments to take account of changes in technology and work organisation and the resulting qualification needs.*
- ▶ *PETRA is now developing its European Network of Training Partnerships (ENTP) as a seedbed for experimental action to adapt vocational training curricula and their delivery to new European needs.*
- ▶ *Work on defining sector-specific language needs in industry is a major programme component within LINGUA.*

II.2.9 Development of European training products and Europe-oriented qualifications

The programmes have given a major stimulus to the creation and marketing of new training products, many developed on a transnational basis.

ERASMUS has supported the development of a wide range of innovative higher education programmes, over 200 of which feature dual and joint degree qualifications which facilitate professional recognition across the Community. Full recognition of study abroad and credit and grade transfer systems provide the appropriate motivation and recognition for those wishing to study in another country. The ERASMUS grants for the development, adaptation, and translation of teaching materials also widens the supply of high-quality training materials, particularly in the hitherto less developed regions of the Community.

- ▶ The last inventory of COMETT outputs lists over 1270 courses, 720 training materials, 148 studies, and numerous databases and newsletters developed through COMETT I. COMETT II is expected to outstrip these figures by a factor of three. FORCE projects are also a source of demand-led continuing training courses, materials, model plans, and qualification needs analysis. The LINGUA projects also are aimed at promoting the linguistic competence of the workforce in industry.
- ▶ PETRA partnerships have produced training materials for use in several countries, especially in new technology areas such as desk-top publishing.

II.2.10 Re-training the trainers

Effective delivery of training curricula depends largely on the quality and commitment of the trainers. The programmes' investment in the training of trainers has a high multiplier value for education and training systems as a whole.

- ▶ In PETRA, joint transnational action on the training or re-training of trainers and guidance counsellors is a major focus. Given the need for a move away from product orientation to customer orientation, the marketing and project management ability of trainers and training organisations is a priority investment within COMETT, FORCE, and EUROTECNET.
- ▶ COMETT and EUROTECNET share a common interest in the training of (especially industrial) trainers, including a particular emphasis on training in new training technologies associated with open and distance learning.
- ▶ In YOUTH FOR EUROPE, the training of trainers of youth workers is a main priority for the National Agencies.
- ▶ LINGUA strongly emphasises the initial and in-service training of foreign language teachers, and ERASMUS has also undertaken particular efforts to boost participation in the Teacher Education field.

II.2.11 Benefits from working on a European scale: increased and additional 'European' expenditure by Member States

The programmes have given rise to many opportunities for improving the cost-effectiveness of education and training by achieving economies of scale, by facilitating access to other

sources of financial support and by providing a shared response to common needs and objectives. European cooperation and networking through the EC programmes provides economies of scale for Member States and national systems and avoid activities which, if reproduced in each country, would be costly and difficult to coordinate.

- ▶ *The availability of networks in all the programmes as frameworks for cooperation facilitates the search for suitable partners.*
- ▶ *Award of ERASMUS seed-money support is frequently instrumental in opening up other sources of project income. Most Member States and several regions have themselves introduced complementary schemes of ERASMUS-related student grants.*
- ▶ *PETRA's relatively modest funding to programme participants not only opens the door to European cooperation, but also stimulates participants to deploy their other financial, human, and physical resources in a way which assists the transnational partnership and exploits its outcomes in a highly cost-effective manner.*

TEMPUS provides a framework for national higher education development within the emerging new democracies in Central and Eastern Europe, as well as linking higher education policy development in a broader G-24 context through PHARE.

- ▶ *Transnational intra- and inter-regional cooperation in ERASMUS and COMETT is leading to inter-university cooperation agreements to share staff resources and facilities in order to maximise the resources of the region(s) concerned.*
- ▶ *Regional and sectoral networks under COMETT enable groups of higher education institutions to provide a brokerage function for industry in cost-effective consortia (notably with regard to transnational student placement arrangements). These consortia are also useful for marketing training products resulting from higher education.*
- ▶ *Work on the productivity of new education approaches, especially in open and distance learning, is going on in many programmes, especially LINGUA, COMETT, and ERASMUS. This work is based on the search for economies of scale as well as meeting the needs of users in remote areas of Europe where providing training in traditional ways is uneconomic.*

II.3 ECONOMIC AND SOCIAL COHESION IN THE EUROPEAN COMMUNITY

Economic and social cohesion has been identified as a fundamental condition for the balanced development of the Community, and education and training have been recognised as a crucial factor in achieving balanced social and economic development in all the Member States. No grouping of nations can nowadays claim to have achieved a high quality of growth if significant elements of its human potential remain untapped, redundant or underutilised.

II.3.1 Specific benefits for the more remote/disadvantaged regions

The programmes seek to offset the extra difficulties encountered by individuals and organisations in less-favoured and/or more remote regions, notably by providing extra information, technical assistance, and/or financial support. Specific efforts have, for example, been made over the last two years for the speedy integration of the new German *Länder* into

the various programmes. Positive discrimination is applied during selection in respect of projects involving or supporting less-favoured regions.

In ERASMUS, LINGUA, COMETT, and PETRA, there are mechanisms to ensure balanced student flows across the Community, as well as financial rules which take into account the different costs of study abroad in different countries, as well as more generous funding for the less-favoured regions.

- ▶ *In COMETT, there has been a concerted campaign to ensure that the network of regional consortia is Community-wide. Nearly all the regions of the Community (and EFTA) are involved, thereby generating the basis for inter-regional cooperation as well as for specific projects under various EC programmes.*
- ▶ *The ERASMUS information efforts in Greece and Portugal have led to a radical improvement in the participation levels of these countries.*
- ▶ *LINGUA provides specific advisory support for more remote countries to aid them in preparing good projects, as well as paying specific attention to minority languages.*
- ▶ *In ERASMUS and COMETT, the practice of ensuring the full participation of non-university higher education favours balanced participation in so far as many of the non-university institutions are located in the more remote regions.*

II.3.2 Decentralised implementation : responsiveness to regional needs

All of the programmes have built up their own distinctive pattern of decentralised units or agencies assisting in the implementation of the programme, bringing information and advice closer for all regions.

- ▶ *In relation to information provision, there are in many cases (e.g. YOUTH FOR EUROPE, COMETT, FORCE and PETRA) networks of National Agencies or Coordination Units which can respond effectively to local priorities.*
- ▶ *With regard to implementation structures:*
 - *COMETT devolves considerable responsibilities to regional higher education-industry structures in order to provide close links to regional development policies, and in some cases directly with regional development agencies and authorities*
 - *In ERASMUS, the National Grant-Awarding Authorities (NGAAs) are decentralised organisations for the distribution of student financial support in the light of national policies and priorities*
 - *LINGUA National Agencies also play a key role in the implementation of the programme as a whole as well as in the running of two decentralised actions*
 - *In YOUTH FOR EUROPE, the National Agencies are decentralised organisations for the distribution of funds allocated to exchange projects.*

II.3.3 Specific projects for knowledge transfer to less-favoured regions

Alongside the general concern to ensure involvement and impact across the entire Community, the programmes fund projects which target specific Community regions.

Several programmes have explicit links with actions under the Structural Policies, thereby providing education and training support for regional development within the most disadvantaged regions. These links can be at programme level (e.g. within FORCE and EUROTECNET, with close functional links with EUROFORM PIC) or at project level (e.g. COMETT and PETRA) or both. Furthermore, the Community data on the programmes provide regional analyses of the impact of each programme.

- ▶ *ERASMUS and COMETT promote curriculum development and other projects specifically designed to transfer knowledge and expertise from more to less-favoured regions.*
- ▶ *ERASMUS grants have assisted in the extension of European associations and societies to countries which have little or no participation.*
- ▶ *More than 60% of the PETRA ENTP projects in less favoured regions are engaged in partnerships with projects outside those countries.*
- ▶ *In EUROTECNET the dissemination of innovative models of vocational training serves to underpin a balanced and coherent labour market. This Programme is also developing methodological/pedagogical concepts to support efforts under the structural funds.*

II.3.4 Active involvement of regions across the Community

- ▶ *Through ERASMUS, inter-university cooperation has become a feature in all regions of the Community, including many where no tradition of such cooperation previously existed.*
- ▶ *Inter-regional cooperation (e.g. Catalonia - Lombardia - Baden-Württemberg - Rhône-Alpes) has also begun to flourish in the higher education field with the programme's support, as has transfrontier regional cooperation in such areas as the Saar-Lor-Lux triangle.*
- ▶ *The network of COMETT regional consortia of industry and higher education (UETPs) involves fully all the EC and EFTA countries, yielding important spin-offs and benefits as well as new activities and services at regional level. Together, they provide a potent structure for inter-regional collaboration and exchange (e.g. through training needs analysis and trainee and trainer exchange).*

II.4 BRINGING EUROPE CLOSER TO THE CITIZEN

The growth of the Community's education and training programmes has coincided with mounting interest in the development of the concept of a "People's Europe". The idea and practice of European citizenship is reflected in and supported by the kind of experience they offer; they are themselves instruments of free circulation and examples of the recognition of European diversity. They offer experience of the reality of European union and unity: the free movement of people, ideas, and products. They offer these things, through their growing networks and through the greater foreign language competence they promote, to increasing numbers of people, giving them the opportunity to learn about and participate in the building of the Community.

II.4.4 Ongoing development of individuals and associations in the process of European construction

The Community programmes have been designed to support durable infrastructure and networking facilities, whereby individuals and groups can continue to benefit or participate after the conclusion of their grant-aided project. Many of the EC-supported activities have thus become highly successful features within the professional networks and structures of the Member States.

European associations and societies in the education field (eg European Society for Engineering Education, Association for Teacher Education in Europe) have been a major beneficiary of Community support through the education and training programmes. This support, which is explicitly structured into programmes such as ERASMUS and TEMPUS, has enabled them to consolidate their activities, extend their membership across the Community, and provide advice and support for European cooperation and exchange.

- ▶ *The programmes are creating generations of project managers who have to come to grips with differing national realities and who in most cases become effective multipliers for Europe. COMETT is specifically designing training programmes for such project managers, who are confronting new "mixes" of skills not so far available in existing training schemes.*
- ▶ *The wide array of networks and sub-networks stimulated by the EC programmes constitutes a flexible and cost-effective response to the pervasive needs for education and training in all fields and at all levels, enabling a maximum number of individuals to participate in the process of European construction in the course of their daily lives.*

II.4.5 Equality of opportunity

Equality of opportunity is a major concern of the programmes, widely reflected in the programmes' operations. Equality-related objectives are also promoted by the programmes' proactive policies towards economic and social cohesion, since those actions tend to support less-favoured regions.

In YOUTH FOR EUROPE's second programme phase, one third of the programme funding is earmarked for direct support for disadvantaged young people (75% funding).

- ▶ *The goals of equality, even when not explicitly stated in specific programme objectives (e.g. COMETT, ERASMUS) are reflected in programme operation through selection and monitoring policy. In FORCE, COMETT, and PETRA, those objectives influence the grading of applications as well as forming a specific training area in which financial support is offered. There are thus many specific projects or events/studies addressing equality needs.*

Promoting equality of opportunity for women

Concern for equality of opportunity between men and women is reflected in proactive approaches in several of the programmes, complementing measures at Member State level. In particular, the IRIS network has put women's training on the political agenda, focusing on the crucial role of such training in developing the skills and competitiveness needed in the Europe of the 1990s.

IRIS is a dynamic European Network, involving nearly 500 training organisations, which provides information on training through its publications and services, promotes women's training through publicity grants, technical workshops and seminars, and stimulates contacts and exchanges through visits, partnership grants, and E-mail.

- ▶ *EUROTECNET has supported the development of demonstration projects addressed mainly or wholly to women and aiming at the establishment of training strategies and policies for the female workforce.*
- ▶ *In COMETT, there is a specific higher education-industry consortium concerned exclusively with technology training issues for women (including guidelines for projects on achieving representative female participation rates). This network has wide Community coverage and is linked into the Community's own IRIS initiative.*
- ▶ *FORCE supports projects addressing specifically the continuing vocational training needs of women and has equality of opportunities for men and women as a central priority for the programme as a whole.*
- ▶ *In terms of ensuring female participation, PETRA and YOUTH FOR EUROPE have been successful in achieving equal numerical participation of young men and women; COMETT has seen higher than proportional participation of women in technology placements in companies (in terms of the proportion of women enrolled in engineering and technology courses); and ERASMUS has since its inception witnessed a consistent rise in female students supported (rising to 56.4% in 1989/90), with significantly higher incidence of female students amongst ERASMUS grantees than amongst the student population at large in subjects which are traditionally male "strongholds" (e.g. Engineering).*

Measures in favour of the socio-economically disadvantaged

Several of the programmes have adopted concrete measures in favour of young people from a disadvantaged socio-economic background, who are generally under-privileged in education and training and have hitherto had few opportunities to participate in transnational training activities.

- ▶ *A recent statistical survey has shown that about one third of participants in PETRA belonged to the group of socio-economically disadvantaged; many of the projects offer stimulating learning environments for groups of young people who have failed in the mainstream training systems.*
- ▶ *In FORCE, access to training for the least qualified is a major criteria determining project selection. Basic skills training in the workplace such as numeracy and literacy are a significant feature in many projects.*
- ▶ *In LINGUA and ERASMUS, the national agencies responsible for student grant support are asked to pay special attention to under-privileged applicants when determining selection and rates of payment.*

Actions for the physically handicapped

- ▶ *In PETRA, the National Coordination Units organise special technical and financial support to enable the disabled to participate in placement programmes.*

- ▶ *In the language field, LINGUA is sponsoring a major project (Lingua Surda) for the hard-of-hearing.*
- ▶ *Special exchanges for disabled persons are funded in YOUTH FOR EUROPE, as are integrated projects which involve both disabled and able-bodied persons.*
- ▶ *In ERASMUS and FORCE, there has been support for a number of projects and support activities specifically oriented towards the enhancement of education and training opportunities for the handicapped.*

II.5 TRANSNATIONAL TRANSFER OF KNOWLEDGE AND EXPERTISE

The transfer of knowledge and expertise across boundaries within the Community (and increasingly to a broader Europe and beyond) is a major feature of the education and training programmes. The implementation of programmes Community-wide has had a major catalytic and structuring effect for the creation of a European learning community, not least through the creation of common objectives and common frameworks for policy and action at Community level. The EC programmes have also provided impetus and financial support for open and distance learning systems and networks across the Community.

II.5.1 Stimulation of networks

The programmes have stimulated specific cross-European networks for knowledge transfer. Each produces its own energy and ever-widening collaboration possibilities across regions and sectors, both within its specific programme and beyond. The various networks are indicated in Table 2 earlier in this document.

II.5.2 Ever-widening spread of transfer in terms of sectors and regions

Many of the programmes have been outstandingly successful in drawing hitherto underprivileged Member States and regions into the mainstream of European cooperation and there are significant sectoral impacts also.

- ▶ *ERASMUS has spread inter-university cooperation beyond the traditional fields and types of institutions in which cooperation was well established and, notably through its joint curriculum development projects, assisted institutions in less favoured parts of the Community to introduce new areas into their courses.*
- ▶ *The sectoral targeting for the higher education-industry consortia in COMETT has ensured a broad balance of consortia across industrial and technological sectors of strategic importance for the Community. FORCE's transnational projects are also spread across key industrial sectors.*

II.5.3 Creation of common frameworks for analysis

Creation and sharing of a common framework for analysing action and the need for action are a frequent feature of the programmes, often giving rise to new tools for exchange and policy development.

- ▶ *In LINGUA, groups of language experts examine the specific language needs of specialist sectors of industry and commerce, and innovative models are developed for the certification of language training for economic life.*

- ▶ In FORCE, continuing training policies are being analysed at national, sectoral, and enterprise levels across the Community.
- ▶ COMETT and FORCE are conducting sector-specific skills needs analyses.
- ▶ EUROTECNET is developing a framework of guidelines to improve vocational training policies and systems.

II.5.4 Enhancing knowledge of the European Community

- ▶ A better understanding of the European Community is ensured through exchange programmes, especially within ERASMUS, which cover certain disciplines such as Law, Economics, Social Sciences, and Management, whose contents are linked to Community developments.
- ▶ In this respect the "Jean Monnet" Action is a direct effort by the Commission for information and transfer of knowledge on European integration towards university circles, youth and, citizens generally.

II.5.5 Innovation in European open and distance learning

Open and distance learning is recognised as a route towards more flexible and cost-effective training systems, especially given the emergence of more powerful and user-friendly technology. The EC education and training programmes have taken full account of this and have supported wide-ranging innovation, whether in regard to Community-wide systems for the delivery of open and distance learning or in regard to individual projects using new distance learning approaches. Networking among the Community's open universities has been strengthened through the EC programmes, providing also support for newly emerging open universities in countries previously lacking such institutions.

In COMETT, an estimated 30% of the programme budget has been spent on open and distance learning systems and materials. The projects supported include new distance learning networks such as EADTU, SATURN, EuroPACE, and Eurostep (which have been pioneers in developing the European infrastructure for cross-border delivery of training courses), as well as specific distance learning packages (including modular Master's programmes), often addressed specifically to small and medium-sized enterprises which cannot release staff from the workplace for training.

This process has involved close coordination with the Community's DELTA Programme, which funds research into learning technology. This allows the pre-competitive research into new systems to feed through into fully-fledged training activities under COMETT.

- ▶ Innovative distance learning approaches have been developed for adult learners under the FORCE Programme. This builds on the considerable interest of companies in the development of multimedia packages in the field of non-advanced vocational training. Such learning packages allow larger companies to link up with smaller companies with which they are associated in order to provide product-related training.
- ▶ In ERASMUS, more emphasis has recently been placed on developing open and distance learning approaches within the Inter-University Cooperation Programmes, in part to encourage a European dimension in university programmes for those students who cannot undertake study abroad. Also, consortia of open and distance learning institutions have received specific support

to create directories of higher education courses and to set up language support systems for their students.

II.5.6 Improving the quality of education and training

The EC supports the Member States' efforts to improve the overall quality of education and training as well as supporting any convergence which is necessary in terms of the free movement of people and ideas within an integrated market. The linkage between "grass-roots" operators throughout the Community provides direct experience of "state-of-the-art" practice, thereby stimulating review and innovation. The recent concern for organised measures and methods for quality assurance has made such interchange of experience and standards, which is a concern of all the EC programmes, an imperative.

Quality improvement is encouraged through partnerships designed to bring training closer to the user/customer (e.g. in COMETT and FORCE), the contribution of sound language practice to project quality (LINGUA) and exemplary projects which disseminate best practice (COMETT and FORCE). EUROTECNET in itself can be considered as essentially a quality assurance programme through its networking of model projects, and the formulation within PETRA of a detailed set of common objectives has quality improvement as its principal objective. The contacts between several thousand academics annually within ERASMUS are beginning to have a significant impact in improving and encouraging innovations in methodology.

- ▶ *The insistence on project criteria based on specific quality improvements is another way of promoting quality (e.g. through the academic recognition criterion within ERASMUS, LINGUA, and COMETT, or through promoting practical work experience as a part of training as in PETRA or COMETT).*
- ▶ *European networking in itself constitutes in many cases a quality factor in so far as advanced training is concerned. In state-of-the-art technology, for example, high quality can often only be ensured through European cooperation as the fields of expertise become increasingly specialised and concentrated in selected locations.*
- ▶ *Quality assurance in education and training is in itself becoming a new skill, and the EC is promoting specific projects within COMETT on quality assurance techniques at both initial and continuing education levels.*
- ▶ *The FORCE projects address the issue of the impact of quality assurance of the training and qualification of workers.*
- ▶ *TEMPUS can be considered to be a specific quality enhancement and assurance action for Central and Eastern Europe.*
- ▶ *Study visit schemes in several of the programmes (e.g. ERASMUS, LINGUA) enable grant recipients to enhance their knowledge of developments elsewhere in the Community.*

II.5.7 Reinforcement and support for other Community policies and programmes

The nature and diversity of education and training mean that they make a contribution, directly or indirectly, to many other areas of Community policy.

- ▶ Research and development on the one hand, and education and training on the other, are linked as part of the chain of knowledge and skills needed to transfer social and economic benefits. Particularly in the higher education programmes, the education programmes have complemented Community R&D in many ways.
- ▶ More specifically, FORCE and EUROTECNET are reinforced by the EUROFORM Community Initiative. FORCE and COMETT are also complementary to measures designed to assist industrial re-structuring and other changes brought about by technological modernisation.
- ▶ Overall, the education and training programmes interact between themselves to form a coherent set of responses to the Community-related aspects of education and training in the 1990s, including the need for anticipating qualification trends through innovative training approaches.

The education and training programmes contribute to course development and training of experts in specific fields. The multinational approach shows its special value in fields such as Agriculture, Law, and Environment as well as through networks with programme-specific or policy-specific objectives (e.g. in Biotechnology, Industry or the mutual recognition of qualifications), SME development, regional development, and aid to the developing world. As a specific example, TEMPUS as a whole is integrated within the broader PHARE effort for the economic and social development of the Central and Eastern European countries.

II.5.8 Respect for national and regional diversity

The education and training programmes have been designed to be sensitive to national and regional practice. Given the different historical, linguistic, cultural, and scientific traditions in the education and training milieu, this approach is the only one which is appropriate.

ERASMUS, LINGUA, COMETT, and TEMPUS have all proceeded from a basic assumption about the individual autonomy of the university, and worked "bottom up" rather than "top down" in all the projects supported. This process is well reflected for example in the European Community Course Credit Transfer System, based on mutual trust and voluntary approaches.

- ▶ COMETT has been implemented through local/regional consortia (UETPs) from the outset.
- ▶ The co-decision model for project support within TEMPUS ensures that national needs in the eligible countries in Central and Eastern Europe are given priority.
- ▶ As a general rule, the programmes have concentrated funding on the 'European' costs incurred as result of transnational operation. For example, ERASMUS student funding, by paying the additional costs of study abroad as compared with study "at home", serves to put the choice of study abroad on an equal footing with remaining in the home country. In YOUTH FOR EUROPE, funding is added to that provided by the Member States and is reserved for activities leading to further transnational cooperation in the youth training field.

PART III

Conclusion

This review has, for the first time, assessed in a single document the nature and achievements of the Community education and training programmes, a process made possible by the unity and similarities in their aims and methods of work, despite operating at different levels and in different sectors. The combined achievements of the programmes put in place since 1986 can clearly be seen to have been considerable, in terms of the numbers of people who have participated; the trans-national activities generated; and their impact on policy thinking in the different Member States.

It is hoped that this overview gives some insights into the rich and diverse process of dialogue and exchange which the first five years of Community programmes in the area of education and training have been able to generate. It is, above all, a dynamic process and, to the extent that some modest success can be claimed, it is due in large measure to the enthusiasm, commitment and energy of the highly motivated actors within the individual institutions, companies, and ministries who have seized the opportunities which the programmes provided and made European cooperation a living reality. In that sense, the programmes represent the epitome of the principle of subsidiarity. The terms of the Maastricht Treaty will provide renewed impetus for a new phase of activity, building on what has been achieved to date and, above all, striving to be responsive to the developing and constantly changing needs of the Community's education and training milieux.

11 January 1993

FOR EASY REFERENCE

TABLE 1 : EC EDUCATION AND TRAINING PROGRAMMES			
Short title	Full title	Duration	Budget execution up to 1992 (MECU)
COMETT	Programme on cooperation between universities and industry regarding training in the field of technology	1986-94	206,6
ERASMUS	European Community action scheme for the Mobility of University Students	1987-	307,5
PETRA	Action Programme for the vocational training of young people and their preparation for adult and working life	1988-94	79,7
YOUTH FOR EUROPE	Action programme for the promotion of youth exchanges in the Community - "Youth for Europe" programme	1988-1994	32,2
IRIS	European Network of Vocational Training Projects for Women	1988-93	0,75
EUROTECNET	Action programme to promote innovation in the field of vocational training resulting from technological change in the European Community	1990-94	7,0
LINGUA	Action Programme to promote foreign language competence in the European Community	1990-94	68,8
TEMPUS	Trans-European Mobility Scheme for University Studies	1990-94	194
FORCE	Action Programme for the development of continuing vocational training in the European Community	1991-94	31,3

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