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The evolution, substance and priorities of EU and ASEAN co-operation in science and technology*

Dimitrios Konstadakopulos[1]
Centre for European Studies, University of the West of England, Coldharbour Lane, Bristol BS16 1QY, UK. (e-mail: Dimitrios.Konstadakopulos@uwe.ac.uk)

Abstract

This article discusses the evolution and substance of co-operation in Science and Technology (S&T) between the European Union (EU) and the Association of Southeast Asian Nations (ASEAN). It will attempt to shed light on the under-researched topic of the role of European technology in the modernisation of Southeast Asia during the last three decades, by examining the methods by which the two supranational entities are attempting to enhance such co-operation. EU-ASEAN collaboration in S&T has experienced a steady, albeit modest, growth during the last few years. The EU is shown to be committed to sustainable development and humanitarian principles (e.g. alleviation of poverty), although this is seriously constrained by economic considerations. By contrast, ASEAN is more concerned with the economic and political benefits to be gained from such collaboration, as shown by the adoption of an export-orientated high technology policy and the rapid economic growth of the region.

Introduction

Scientific co-operation between Europe and Southeast Asia is historically well established. Most nations in Southeast Asia have had strong ties with European countries, and since the late nineteenth century European ideas, practices and technology, as well as early development assistance, have played an important role in the modernisation of their economic, social, legal and political systems (Brown, 1997; Hell, 2001; Wang Gungwu, 2001). In particular, during the 1950s and 1960s technology transfer from Europe greatly facilitated the contempo-

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[1]Senior Research Fellow and Head of the European Regional Studies Unit at the Centre for European Studies, University of the West of England, Bristol, UK. He is also Visiting Fellow at the Institute of Southeast Asian Studies in Singapore.

rary industrialisation of Southeast Asian countries, through their adoption of import substitution strategies. The transfer of technology also became an important issue in the 1970s and 1980s, in the context of the contribution of direct foreign investment (DFI) from Europe and elsewhere to the development of an export-orientated high technology industry and the rapid economic growth of the region (Montes, 1997). Since there is a high dependence on international technology transfer, ASEAN has actively sought to enter into co-operative agreements with technologically advanced countries, in order to pursue the Association's own regional technology development. On-going attempts to promote international co-operation in S&T, R&D and technical training between ASEAN and the EU seem to be closely related to the economic, foreign and development policies of both regional groupings. The EU is ASEAN's second largest export market after the United States, and, collectively with its member states, the second most important donor of official development assistance (ODA) after Japan. It is also the Association's third largest trading partner, the two largest being Japan and the United States.

Given this context, the paper seeks to examine how EU-ASEAN co-operation in S&T has contributed to the economic development of Southeast Asia over the years and to identify the motivations of the two regional groupings and the means by which they have attempted to develop their scientific co-operation[2]. It focuses on the interaction between the EU and ASEAN from both a European and Southeast Asian perspective. EU-ASEAN scientific co-operation merits serious attention, given the fact that the EU is the source of the largest transfer of technology to Southeast Asia even more than the United States and Japan, if we include that which takes place at both institutional and bilateral levels. In spite of the importance of multinational companies (MNCs)[3] in the transfer of technology to the region, individual governments and ASEAN itself have the competencies to make important choices for the utilisation of science and technology. This paper explores some aspects of EU-ASEAN co-operation in science and technology, from the point of view of the 'catching up' efforts on technical progress being pursued by a number of Southeast Asian countries. Its main thrust is an analysis, in Sect. 2, of the evolution of EU-ASEAN co-operation in S&T, drawing upon the theoretical concepts put forward by a number of observers of EU-ASEAN relations. Section 3 discusses the rationale of the EU's transcontinental co-operation in S&T in general, while Sect. 4 elaborates on the institutional capacity and constraints of ASEAN, and pays particular attention to the role of its Committee on Science and Technology (hereinafter COST). Section 5 investigates the EU's scientific research and co-operation with individual Southeast Asian countries and analyses the data sets derived from the above countries' participation in the EU's major S&T programmes. Finally, with a

[2]The paper draws on a number of interviews with officials from the ASEAN Secretariat in Jakarta, members of the ASEAN Committee of Science and Technology (COST) in Indonesia, Malaysia, Thailand and Singapore, the European Commission, and various decision-makers and academics, which took place in July-August 2001 and July 2002.

[3]Technology transfers from MNCs through DFI and other forms of co-operation are very important. However, such transfers depend on the upgrading of the domestic absorption capacity of endogenous firms through the development of a country's S&T system (Gabriele 2002; p. 337).

view to the dramatic geopolitical changes within the EU, ASEAN and the rest of the world in the early years of the 21st century, the paper concludes by asking whether the courses of action that have led to the existing co-operation in S&T between the EU and ASEAN so far are likely to be a useful indicator for future co-operation.

Political dialogue opens the door for co-operation in science and technology

The theoretical framework in which scholars have been attempting to understand the complex functioning of EU-ASEAN interactions in the last thirty years mainly draw upon international relations and comparative politics. Eero Palmujoki distinguishes between the politico-economic considerations of the EU's dialogue with ASEAN based on European common values, and the concepts of sovereignty and ASEAN unity that underpins ASEAN's relations with the EU (Palmujoki 1997). Gina Pattugalan argues that EU-ASEAN relations are mainly driven by Europe's desire to establish a presence in this important region of the world, and by ASEAN's ambition to reduce over-dependence on the United States (Pattugalan 1999). Anthony Forster conceptualises the EU as a rather conservative political actor, being neither solely an intergovernmental or supranational entity, and highlights the fact that the EU 'uses external agreements to reduce uncertainty, provides channels of communication, and creates norms of acceptable behaviour' (Forster 2000; p. 189). As a loosely structured intergovernmental grouping, ASEAN has had to cope with different pressures than the EU. ASEAN's objective is regional co-operation rather than regional integration (as is the case for the EU). For that reason, national interests have taken priority in the Association's history.

It was the creation of these two large economic groupings – the European Community (EC) in 1958 and ASEAN in 1967 – that added a new dimension to inter-regional co-operation. In 1972 the EC became the first trading block to establish informal relations with ASEAN, setting the foundations for regular institutional contact (Bunnag 1997; p. 17). However, it was not until 1978, in Brussels, that the first official ministerial meeting between them was held. In March 1980, at the second ASEAN-EC Ministerial Meeting (AEMM), held in Kuala Lumpur, a Co-operation Agreement between the member countries of both groupings was signed[4]. The Agreement – which is still the only legal framework that governs relations between the two trading groups – set out the structure for institutionalised meetings, and for closer economic and commercial co-operation (including collaboration in S&T). It approved the creation of the Joint Co-operation Committee (JCC), which was to meet annually in order to discuss economic issues (mostly trade relations) as well as political issues. The JCC was divided into four sub-committees, one of which was designed specifically for the co-ordination of science and technology co-operation, therefore initiating the institutionalisation process of technological

[4]European Council Regulation (EEC) No. 1440/80 of 30 May 1980 concerning the conclusion of the *Co-operation Agreement* between the European Economic Community and Indonesia, Malaysia, the Philippines, Singapore and Thailand, all members countries of ASEAN.

collaboration between the two regional groupings. The first EC-ASEAN JCC met in Manila in November 1980, at which a plan for joint activities in the field of science and technology was drawn.

The rather broad EC-ASEAN Co-operation Agreement was soon followed by bilateral agreements between the European and Southeast Asian countries. As the EU and ASEAN expanded, their new members (with the exception of Myanmar) gradually acceded to the Co-operation Agreement. By the early 1990s, it had become clear that no major progress made for a closer economic co-operation between the above two trading groups. The EU was preoccupied with the completion of its Single European Market and was frustrated by the lack of progress in the integration process of ASEAN (Hine 2000; p. 14). Furthermore, ASEAN was involved in its controversial enlargement plans concerning the incorporation of Vietnam and Myanmar.

However, the transformation of the European Community into the European Union, brought about by the Maastricht Treaty in 1993, led to the need for a revaluation of the EU-ASEAN relationship. Indeed, EU-ASEAN relations intensified in 1994 as a consequence of the 11th AEMM that took place in Karlsruhe, Germany. Moreover, an attempt to articulate the substance of the EU-ASEAN relationship was discernible. The proposed priorities in the new intra-regional co-operation have now shifted from trade to a series of discrete activities aimed at the alleviation of poverty, development of human resources, improvement in health and family planning, increase in women's participation, respect for human rights, and the protection of the environment. The justification for this new era of co-operation is found in the European Commission's Communication document of 1994, entitled '*Towards a New Asia Strategy*'.[5] The explicit intent of the Communication, which was endorsed by the European Parliament in 1995, is the 'strengthening of the EU's political and economic presence' in the wider Asian region. It was undoubtedly the economic ascendance of East and Southeast Asia that was behind the EU's motivation to become involved in the region. The Communication reiterated the EU's willingness to enhance co-operation with the wider Asian region in the fields of science and technology, and research and development.

In July 1996, the European Commission released its Communication document entitled '*Creating a New Dynamic in EU-ASEAN Relations*', in which it reiterates its new Asia strategy and its commitment towards strengthening its ties, this time specifically with ASEAN.[6] The Commission held the view that the only politically feasible means for advancing the EU-ASEAN relationship was through a new strategy document rather than with a revised[7],

[5]Commission of European Communities, *Towards a New Asia Strategy*, COM(94) 314 final, Brussels 13.07.1994.

[6]Commission of the European Communities, *Creating a New Dynamic in ASEAN-EU Relations*, COM(96) 314 final, Brussels 3.7.1996.

[7]Although both the EU and ASEAN were willing to revise the 1980 Co-operation Agreement when it came up for renewal in 1991, the human rights abuses in East Timor by the Indonesian military prevented its renewal because of strong opposition by the European Parliament and by Portugal, its former colonial master (Forster, 1999; p. 751). However, even if there were no objection by Portugal, the ASEAN countries would still not agree to sign a co-operation agreement incorporating a human rights clause (Lim, 2002; p. 5).

or even new, co-operation agreement (Forster 2000; p. 795). However, the Communication included conditionality as an important, albeit controversial, precondition for the advancement of a meaningful EU-ASEAN relationship.

In the joint declaration that followed the 12th AEMM in Singapore in February 1997, both parties agreed to continue co-operation in S&T though the co-ordination of the JCC Sub-Committee on S&T.[8] However, by joining ASEAN in July 1997, Myanmar seriously damaged EU-ASEAN relations. It also resulted in the disruption of EU-ASEAN meetings – for instance, the AEMM scheduled to take place in Berlin in March 1999 did not materialise, because of the EU ban on the entry to Europe of senior officials form the Burmese government.[9] Eventually, the 13th AEMM took place in Vientiane in December 2000, after a lapse of more than three years. The EU-ASEAN JCC also did not meet for two years. It was reconvened in Bangkok in May 1999, where Burma/Myanmar, Laos and Cambodia – all non-signatories of the EC-ASEAN Co-operation Agreement – attended under special conditions. Nevertheless, EU-ASEAN co-operation has now been resumed, and a number of programmes under the 1980 Agreement, discussed in more detail in the following sections, have been fully operational. The latest (14th) AEMM took place in Brussels in January 2003. This was the first time that Myanmar has been invited to attend such a meeting in Europe. It is widely believed that the meeting expedited co-operation between the two regional groupings[10].

The EU's insistence on including democracy and human rights, as a condition for participation in its S&T programmes has been much criticised in Southeast Asia. Not unexpectedly, at least two senior government officials from Thailand and Singapore – members of ASEAN's COST – commented on the EU's intractable stance on Myanmar, which has excluded the country from all of its S&T-supported programmes. As one interviewee put it: 'Is remote sensing research going to help militarily the Burmese regime?'[11]

Over time, the EU and ASEAN have established an extensive network of contacts with the purpose of facilitating co-operation in political, economic, epistemic and cultural fields. Besides the afore-mentioned AEMM and JCC, these include the Post-Ministerial Conference (PMC), the ASEAN-EU Senior Officials Meeting (SOM), the Asia-Europe Vision Group, the Asia-Europe Business Forum, the Council for Asia-Europe Co-operation (CAEC), the Asia-Europe Foundation (ASEF), the ASEAN Regional Forum (ARF)[12] and the

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[8]The twelfth ASEAN-EU Ministerial Meeting, Singapore, 23-14 February 1997, Joint Declaration, *ASEAN Economic Bulletin*, Vol. 14, No. 1.

[9]For a more detailed analysis of the 'dark side' of ASEAN-EU relations, see Dosch (2001).

[10]Pushpanathan S (2003) '*All weather partnership: A new dynamism in EU-ASEAN ties after the problems of the last 3 ½ years*' (http: //aseansec.org/14249.htm accessed 19/06/03).

[11]Interview information, Bangkok, August 2001.

[12]The forum is a venue for ASEAN and East Asian countries and other interested parties, including the EU, to discuss issues of regional security. However, the EU has played a rather passive role in the forum, given the fact that it has no military presence in the region and its security role is restricted to arms sales (*The Straits Times*, 'EU's interest in ASEAN waning', 9 April 2002). For a detailed account of the function and remit of the ARF, see Möller 2002; pp. 21–25.

Asia-Europe Meeting (ASEM)[13]. ASEM is the outcome of inter-regional rivalries between Europe, Asia-Pacific and the US, designed to balance the existing inter-regional co-operation with the rest of East Asia (Pattugalan 1999; p. 61). It is considered a prototype for the consolidation of EU-Asian relations (CAEC 1997; Forster 2000; Reiterer 2001). From our point of view, ASEM appears to be instrumental in embedding existing EU-ASEAN collaboration in S&T and opening new avenues for inter-regional collaboration. However, ASEAN countries insist that they should be viewed by the EU as 'a distinct and separate entity' and not be overshadowed by their Northeast Asian neighbours, namely China, Japan and South Korea[14]. The ASEM Ministerial Meeting on Science and Technology that took place in Beijing in October 1999 initiated the institutionalisation of co-operation amongst the scientific communities of Europe and Asia. The ministers identified a number of areas of common interest in which co-operation might take place, such as conducting basic research, joint utilisation of large-scale scientific facilities, knowledge transfer and S&T human resource development, research on agriculture, environmental protection, and upgrading the R&D capabilities of enterprises.[15]

Interpersonal networks between senior officials from both Europe and Asia have nevertheless emerged. Moreover, scientific, technological and economic networks are being created, linking businesses, academics and society. With respect to the latter, efforts are being made to involve the public in the formulation of S&T policy. Such non-governmental networks are now starting to affect the salience of S&T collaboration between Europe and Asia. The formation of European-Asian networks could be seen as the natural conduits for what Petrella, a trenchant commentator on science and technology policies, calls 'the hybridisation of S&T' (Petrella 1995; p. 60). Hybridisation is certainly taking place; but does co-operation in S&T bring greater common understanding between Europe and Asia? That is to say, has it redressed the balance between the tri-polar inter-regional rivalries between Europe, Asia and the US?

In 2001, and in the context of certain wariness in some European countries about engaging in the region, the European Commission updated its 1994 Communication with a new publication entitled '*Europe and Asia: A Strategic Framework for Enhanced Partnerships*'[16]. In this Communication, the 'the need for reinforced inter-regional scientific and technological co-operation to foster common analysis of and solutions to shared regional and global problems' (p.19). In relation to ASEAN, the Commission expresses the wish to enhance co-operation between the two regions, particularly in new-technology sectors.

Although this section of the paper has concentrated on the evolution of wider political relations between Europe and Southeast Asia, it has nevertheless shown that interest in inter-regional co-operation has fluctuated considerably over time according to circumstances. Predictably, such fluctuations reflect not

[13] ASEM was proposed by Goh Chock Tong, the Prime Minister of Singapore, as a way out of the 'completely deadlocked' EU-ASEAN relationship (Forster 2000; p. 795). It includes the fifteen EU members, the president of the European Commission, and the ASEAN-6, as well as China, Japan and South Korea.

[14] *The Straits Times*, op. cit. fn. 11.

[15] Ministerial Communique of October 15, 1999, ASEM Science and Technology Minister's Meeting, DG for External Relations, European Commission.

[16] COM(2001) 469 final. For a critique of the communication, see Lim (2002).

only the different agendas pursued by the EU and ASEAN (Palmujoki 1997), but also the fact that ASEAN itself has not yet developed a comprehensible strategy for Europe. The consensus is that EU-ASEAN relations are 'asymmetric', implying that the EU has been more important to the member countries of ASEAN than vice versa (Slater 2000; p. 238). This asymmetry, which is a consequence of interaction between two economic groupings of unequal strength and of widening gaps in institutional depth (Langhammer 2001; pp. 118–9), becomes apparent in the following sections, where we examine the substance of EU-ASEAN co-operation in science and technology.

The EU's transcontinental co-operation in science and technology

Recent literature increasingly suggests that international scientific co-operation is becoming more important as the process of globalisation gathers pace.[17] More countries are joining the mainstream scientific world and creating what the European Commission calls the 'global laboratory', in which the international scientific community works together (CEC 2000a; p. 3). There are two main reasons for the internationalisation of scientific co-operation: first, there is a need to share research costs, particularly for basic research; second, the existence of global problems, such as climate change, requires global solutions. The rationale that drives scientific collaboration in Europe is the so-called 'Triad perspective' (Langhammer 1998; p. 225; Peterson and Sharp 1998; pp. 13–14), which is the desire to challenge competition from the US and/or Japan. It is hardly surprising, therefore, that international co-operation in S&T is playing an important role in implementing the priorities of the EU's technological research. Over time, European countries have designed and implemented many policies in support of S&T.

European collaboration on the development of S&T started in the aftermath of the Second World War, with the adoption of the founding treaties establishing the European Coal and Steel Community (ECSC)[18] in 1952, and the European Atomic Energy Community (Euratom) in 1958[19]. The treaties transferred sovereignty to the European level, and it could be argued that the EC/EU is the by-product of these treaties, in particular Euratom (Simonetti 2001; p. 187). An important development in scientific collaboration was the creation in 1970 of the European COST Committee (European Co-operation in the field of Scientific and Technical Research), which for first time involved European countries from outside the EC. In the 1980s and early 1990s, all

[17]The OECD reports that in the mid-1990s 27% of scientific publications in the OECD area were the result of cross-border co-authorship of scientific articles, while 7% of patents were co-invented by international co-operative research (OECD 2002; pp. 52–64); see also Peterson and Sharp (1998; pp. 52–55).

[18]The ECSC Treaty, which was signed on 18 April 1951 in Paris, came into force on 23 July 1952, and ended on 23 July 2002.

[19]The Euratom Treaty was signed, along with the EEC Treaty, in Rome on 25 March 1957, and came into force on 1 January 1958. These Treaties are often referred to as the 'Treaties of Rome', while the term 'Treaty of Rome' denotes only the European Economic Community Treaties.

Table 1. The EU's framework programme

Programme	Duration	EU contribution (ECU/€ billion)
FR I	1984–1987	3.7
FP II	1987–1990	5.4
FP III	1990–1994	6.6
FP IV	1994–1998	13.2
FP V	1998–2002	15
FP VI	2002–2006	16.3

Source: European Commission

European countries substantially increased their intra-European collaboration in S&T within a number of programmes, some of which are co-ordinated by the European Commission. The European Commission itself – one the central institutions of the EU – is directly involved in the Research and Technological Development (RTD) Framework Programmes (FPs), the Union's main instrument in the implementation of S&T policy. Since 1984, the EU has adopted six framework programmes, the latest (FP VI) having been launched at the end of 2002[20] (see Table 1). The initial FPs, strongly influenced by large European technology firms, were of a technological and applied nature and focussed on the commercialisation of research findings (Cooke et al. 2000; p. 23).

The evolution of the EU's international R&D collaboration is rightly considered an impressive achievement, since the Commission succeeded in integrating into FP V all non-nuclear international S&T co-operation activities[21]. Scientific and technological co-operation with developing countries has been a separate measure in FP V. The new FP VI is also innovative, as it creates a *European Research Area* (*ERA*) which is open to non-member countries. For the first time, developing countries are able to participate in all European programmes and not just in a programme designed specifically for them. However, as well as sophistication in the development of S&T policy, there has also been a change over time in the conceptualisation of international scientific co-operation with developing countries.

European scientific co-operation with developed and developing countries outside Europe became an important element of the EU's FPs in the early 1980s. This progressive thinking coincided with the adoption of the ESPRIT programme (European Strategic Programme for Information Technologies), an important and popular initiative in the history of European S&T policy. ESPRIT introduced the 'share-cost' approach to international collaboration in R&D, which was eventually adopted in other programmes (Peterson and Sharp

[20]The European Commission gained competencies in S&T policy for the first time after the 1987 Single European Act, which conferred to the Commission the exclusive right to initiate multi-annual FPs. The Commission promptly made use of the right when it adopted the second FP (1987–90) (Prange 2003; p. 27).

[21]This is the opinion of the panel that appraised the EU's international co-operation in S&T. See the '*Five Year Assessment Report Related to the Specific Programme: Confirming the International Role of Community Research Covering the Period* 1995–1999', May 2000, Commission of the European Communities.

1998; p. 72; Simonetti 2001; p. 188). However, the European Commission is not always so collaborative when European interests are in stake. For instance, it did not allow strategic collaboration between two computer companies from the UK and Japan within the ESPRIT programme, on the grounds that such alliance could harm European competitiveness (c.f. Sigurdson, 1996, mentioned by Langhammer 1998; p. 238; Peterson and Sharp 1998; pp. 224–5). Furthermore, in the late 1980s, the EU expressed its reservations about ASEAN's request to allow ASEAN researchers to participate in research on new commercial technologies (Luhulima 1993; p. 86). In the early 1990s, as Peterson and Sharp note, a steering committee created by the European Commission to open up participation to EU-funded research to Japan, the United States, Canada and Australia failed to make much impact (1998; p. 224).

However, there is also a number of scientific programmes, such as the European Laboratory for Particle Physics (the former CERN), EUREKA and European Space Agency (ESA), which have operated outside the control of the Commission for many years now. Moreover, in the above programmes, the member states of the EU collaborate in R&D with many non-EU countries. The EU's desire to be independent of the United States on major R&D projects has led to the establishment of the *Ariane* space rocket programme, the *Airbus consortium* of European aeroplane manufacturers, and most recently, the *Galileo* satellite positioning system[22]. However, there is no reason for the EU to feel threatened by the United States' commanding lead in high technology industries, as long as US firms continue to invest heavily and establish R&D facilities in Europe.

The rationale for such scientific co-operation is based on the so-called principle of 'mutual advantage', in which the primary objective is the mutual interests of the different research partners involved. Behind this is, perhaps, the desire of the EU to penetrate new markets by opening up the Community's RTD FPs to third countries and to strengthen the competitiveness of European economy in international trade. Ultimately, the EU's policies on trade and science and technology are becoming interlinked. Additional grounds for scientific co-operation are the need to study phenomena and issues (e.g. climate change, epidemics and migration) in a transnational context, as well as to support and strengthen R&D capabilities in economically less advanced countries (Drenth 2002; p. 9). The globalisation of research, however, has obliged the EU, via the Treaty on European Union signed in Maastricht in 1992, to provide for first time an explicit legal basis to its international S&T policy. The Treaty of Amsterdam, which amended the Treaty on European Union, Article 164 (ex Article 130g), explicitly states that 'the promotion of co-operation in the field of Community research, technological development and demonstration with third countries and international institutions' should be pursued.

It is worth noting that the process of Europeanisation of S&T during the last three decades has taken place against a background of increased interest from both developed and developing countries in technological performance. Petrella aptly calls this phenomenon the 'technologisation of society', whereby

[22]Carus F (2003) '*Eye in the sky: Europe and the US are gearing up for the next technological race into space*', The Guardian, 22 May 2003.

'technology is shaping society more than society shapes technology'[23] (Petrella 1995; p. 56). Developing countries in Southeast Asia and elsewhere now perceive technological advancement as a prerequisite to nation-building. Characteristically, the charismatic former Minister of Science and Technology of Indonesia, B.J. Habibie, has said that:

> Science and technology (…) is the key to nation-building…to transfer, adapt and further develop technologies in the process of people's efforts at nation-building, and to use technology as one of the more important bases of its culture, is easier said than done. The whole process i[s] extremely complex and as yet not completely understood.[24]

The same line of thinking, based on the development of scientific capabilities, can be found in some of the other founding member states of ASEAN, such as Malaysia, Singapore, the Philippines and Thailand. Yet in some of the industrialised 'North' countries (e.g. Western Europe, USA and Japan), scientific co-operation with the developing 'South' has been viewed with mistrust. Petrella suggests that the dogma of competitiveness found in most industrialised countries leads to a sense that S&T belongs to them rather than mankind as a whole. Apparently this idea has been responsible for the 'misdirection of [their] S&T' policies (Petrella 1995; p. 57) and their willingness to transfer technology to developing countries. Nevertheless, it has also been acknowledged that North-South technology spillovers do occur through international trade, although this depends on the willingness of trade partners and their firms to transfer knowledge, and most importantly, on the absorptive capacity of individual organisations and institutions of the developing country (Gabriele 2002; pp. 334–5). It appears to be the case that the EU plays a rather limited and self-interested role in the development of technological capabilities in Southeast Asia. But how to what extent can this assertion be justified? Has there been a re-orientation of EU priorities in the area of scientific collaboration with Southeast and East Asia, in parallel with the re-valuation of the EU/ASEAN/ASEM relationship? To answer this, we must consider the levels of funding made available to Southeast Asia, as well as the type and function of various S&T and other collaborative programmes.

Firstly, the EU's so-called 'co-operation funding' to ASEAN for 1996–2000 – which includes development aid and economic co-operation – averages €438 million per year. This is markedly more than the modest €363 million granted during the period 1991–1995. However, when aid from the EU as a whole and from its member states individually is added together, this accounts for 30% of all ODA flows to Asia (as opposed to just ASEAN). The EU and its member states[25],

[23]Doubts about genetically modified foods and genomics have led to a heated dialogue between scientists and the general public in Europe.

[24]Keynote address delivered at the International Symposium on 'Energy and International Cooperation: Options for the 21st Century' by Habibie (1991) Vol 1, p. 282

[25]Paradoxically, statistical analyses of ODA in the period 1980 to 1995, to all developing countries (including those of Southeast Asia) from the EU as a whole, as well as individually from Germany, France and the United Kingdom, suggest that human rights, democratic structures and levels of military spending do not influence the direction of funding (Zanger 2000). These findings do not coincide with the conditions laid down by the EU for participation in its S&T and other programmes.

therefore, rank second to Japan, with 51% of its ODA going to Asia, and well ahead of the US, with a meagre 9% (CEC 2001; p. 13).

Co-operation funding to Southeast Asia is normally channelled through the various EU-ASEAN co-operation programmes, as well as through multi-annual programmes on a bilateral basis. At the same time, the EU started to establish a number of European technology centres in Southeast Asia, concentrating on sectors in which Europe has a comparative advantage (i.e. energy, environmental technologies, ICTs etc). This coincides with ASEAN's establishment, by 1997, of fourteen regional centres aimed at promoting co-operation among its member states. They are mainly involved in agriculture, energy, the environment, social and institutional development, culture and tourism, and science and technology. Most of them – dependent on funding from the EU and other dialogue partners[26] – have played an important role in supporting research, training, transfer of knowledge and know-how, and networking.

It is evident from the above that the EU's re-orientation of priorities for the global S&T agenda is based on what Petrella calls 'the principle of co-existence of all humanity' (Petrella 1995; p. 58). The EU's conceptualisation of S&T as a means of solving global problems is demonstrated clearly by the Union's continuous efforts, through technology transfer and assistance for energy conservation, to protect the world's environment in the context of climate change. Furthermore, efforts are being made to close the 'digital divide' that separates European and Asian societies, by supporting joint R&D in communications technology as well as in transport. Other initiatives involve extending the network of EU delegations, strengthening educational, scientific and cultural exchanges, and civil society networking (CEC 2001; pp. 19–20). Special emphasis is placed on bilateral co-operation. It is precisely this type of co-operation on a bilateral basis which is claimed to have dominated inter-regional co-operation assistance between the EU and ASEAN member states. As we shall see in the next section, this is mainly due to the fact that ASEAN, unlike the EU, still has few competencies in dealing with S&T issues at the regional level.

ASEAN's technology and innovation policy

ASEAN's Secretariat acts as an international negotiator, especially when dealing with the EU and institutions such as the World Trade Organisation, and the dialogue partners. The Secretariat, with its relatively small number of staff operating from modest headquarters in Jakarta, also facilitates the institutionalisation of collaboration on a growing number of transnational issues that concern Southeast Asia, including collaboration in S&T (Konstadakopulos 2002; p. 101).

In 1978, ASEAN created the Committee on Science and Technology (COST)[27]. The Committee aims at facilitating technological co-operation

[26] See for instance Mahani (2001) on the discussion of ASEAN's external economic links with its dialogue partners and regional grouping.

[27] In the EU, the equivalent of ASEAN COST is the *European Research Advisory Board* (EURAB), which was set up by the European Commission in 2001 after the abolition of the European Science and Technology Assembly (ESTA), and the Industrial Research and Development Advisory Committee (IRDAC).

among the Association's member states and at promoting the scientific and technological development of Southeast Asia. It consists mainly of senior government officials and planners in science and technology from the ten member countries of ASEAN, and officials from the Secretariat, as well as scientists, researchers, engineers, and experts from the various institutions in the region. The Committee serves as a focal point for ASEAN's wider scientific community, including businesses, as well as the main contact point for the Association's interregional and supranational organisations, and dialogue countries. COST meets twice annually – once formally and the other informally – in order to discuss strategic and policy issues in relation to technological co-operation between its members, and reviews the progress of joint programmes and projects. In such meetings, be they of a ministerial or technical nature, members of COST prefer discussing non-contentious issues, and a sense of fellowship and solidarity prevails at all levels. COST attracts over a hundred individuals to it formal meetings, and to the various parallel meetings of its nine sub-committees[28]. These sub-committees assist COST in the formulation, implementation and management of the various action programmes.

ASEAN's first Action Plan was adopted in 1981 and set the foundations of interregional technological co-operation. Since then, there have been several other plans of action taking into account the advancement of new technologies and the internationalisation of research and development (R&D). The latest Action Plan (for 2001–2004) pays particular attention to the initiation of regional collaborative projects that would be of benefit to all member states, as well as expanding co-operation with external partners. Emphasis is based on the '*ASEAN-help-ASEAN*' scheme of COST, designed to integrate the most recent member countries into the mainstream of co-operation in S&T. The Plan focuses on facilitating collaboration in S&T between the public and private sectors – a policy issue that failed to materialise during the implementation of the previous 1996-2000 Action Plan.

It is possible to identify the influences of various national governments and dialogue partners, including that of the EU, behind the latest initiatives. From the Secretariat's annual report (ASEAN 2001; pp. 64–65) and from the various COST press reports[29], it can be discerned that the main focus of S&T co-operation in the region is, on the one hand, the continuing challenge of coping with the process of globalisation and, on the other, the integration of newer member states, namely Cambodia, Laos, Myanmar and Vietnam, into the Association's S&T activities. Priority is given to human resource development and capability building in strategic industries through joint R&D, training programmes, and workshops in the fields of biotechnology, materials science, remote sensing and IT. These programmes and initiatives are implemented within the ASEAN member countries, with the support of the Association's dialogue partners. It is acknowledged that it is mainly the technical and financial assistance of ASEAN's dialogue partners that has been instrumental for the implementation of the above programmes.

[28]The sub-committees cover the areas of food science, meteorology, biotechnology, materials science, microelectronics and information technology (IT), marine science, non-conventional energy research, S&T infrastructure and resources development, and space technology.
[29] See for instance the Joint Press Statement on the 44th Meeting of COST, Kuala Lumpur, 11–13 September 2002, http: aseansec.org/12610.htm accessed on 2/6/03.

The contribution of dialogue partners is the most important source of finance and technology transfer for most of the projects undertaken so far which fall within the Committee's (or its subcommittees') priority areas. Not only the EU, but also Australia, Canada, Japan, New Zealand, South Korea, the United States and more recently China, are financing a variety of collaborative projects, from food safety and quality to wastewater treatment, and from energy generation and conservation to remote sensing. Funding is also available from private sources, as well as from two very modest funds: the *ASEAN Trust Fund for S&T* (known as the *ASEAN Science Fund*) and the *ASEAN Fund*, neither of which exceeds $1.5 million per year.

Undoubtedly, there has been an increase in the competencies and activities of COST, which is the initiator and manager of action programmes and the means of liaison with external partners (whereas the ASEAN Secretariat has to deal with policy co-ordination and the supervision of action plans). Many European interviewees commented favourably on the Association's good intentions but with exasperation about its limited institutional capacity, lack of economic resources and the slowness of its decision-making process. Moreover, they indicated that attitudes in many ASEAN countries are defensive, since they try to manage science and technology nationally. There are considerable differences between ASEAN countries with regard to the stand they take on S&T policies, and the strategies they develop. The transitional economies of Vietnam, Myanmar, Laos and Cambodia face the difficult task of industrialising their primary-based economies. The larger countries, such as Indonesia, Malaysia, the Philippines and Thailand, have developed a wide range of R&D activities in order to keep their technological options open (ASEAN 1998; p. 39) and have the capacity to embark on mutually beneficial scientific co-operation with the EU. Singapore, of course – having followed its own trajectory of technological development – wishes to become the technology hub of Southeast Asia (Heng 2002). Since it also has adequate financial resources, it could emulate Israel in applying for privileged access to the EU's FP VI on a cost-sharing basis.

Co-operation in industry and, by extension, in S&T is low because intra-ASEAN trade is more limited than that of other economic groupings, such as the EU. As Mansor and Radam state, the non-co-operative spirit is due to the economic structure of the member countries, which makes them pursue their own interests rather than those of the region. For instance, the founding members of ASEAN – with the exception of Singapore – are experiencing similar levels of development and factor endowment, which makes them compete rather than collaborate (Mansor and Radam 2000; p. 155). In the next section, we shall look in detail at the EU's scientific research and co-operation on a bilateral basis and at the accompanying international co-operation programmes for Southeast Asian countries.

The EU's scientific research co-operation on a bilateral basis

Scientific research and co-operation between the EU and individual Southeast Asian countries has also been of great importance. It started in the mid-1980s, under a variety of European Union RTD framework programmes intended for international co-operation. For instance, the 4th and 5th multi-annual

framework programmes covered scientific and technological co-operation with third countries, including most of the developing countries in Southeast Asia. Initially, such programmes covered a relatively limited range of scientific disciplines. For instance, projects supported under programmes such as the *International Cooperation Programme for Developing Countries* (INCO-DC)[30] (1994–98) were mainly in the fields of natural resource management, agriculture and health. Examples of such projects are: scientific collaboration in the area of agronomy, such as crop development and crop diversification in the Northeast of Thailand; the protection and sustainability of tropical forests; flood control and drainage in Java; crop protection in the Philippines; and eradication of malaria. Emphasis was placed on rural development and assistance, although other initiatives also took place, focusing mainly on technology transfer and industrial co-operation.

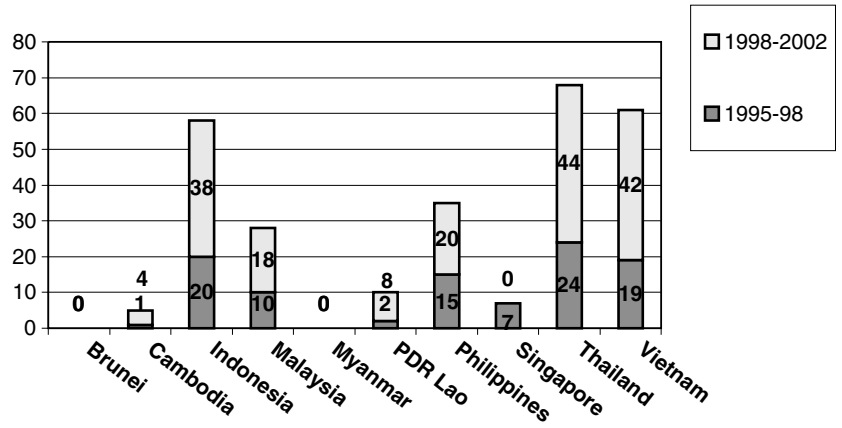
However, from 1995 onwards the INCO-DC programme was enlarged in order to include new areas such as that of information and communications technology (ICT). (Previously, ICTs as well as research on advanced industrial material and components were fringe activities). This new orientation on broadening scientific co-operation stems partly from the desire to integrate the developing countries into the world economy and partly from the rapid 'technologisation' of Southeast Asian society and its economy. For example, Singapore, Malaysia, and to some extent Thailand and Indonesia, are now some of the largest producers of ICT hardware.

The research programme '*Confirming the international role of Community research*' INCO-DEV (1998–2002), launched in 1999, covered all previous scientific areas found in INCO-DC and made a plea for the use of two new elements in its strategic approach in order to achieve more meaningful scientific collaboration. These new elements are the principle of 'co-existence of all humanity', through the development of policies to meet basic human needs (i.e. alleviation of poverty), and the undertaking of research on sustainable development.

According to the Assessment Panel that appraised the EU's international co-operation in S&T, the INCO programmes that reflect the EU's external policies have had a beneficial effect on certain specific issues, such as facilitating co-operative science projects in individual regional groupings, and, in Southeast Asia's case, supporting the region's agriculture, protecting human health and managing natural resources. Even when this is taken into account, however, the Panel argues that INCO is nothing more than a collection of separate initiatives. Moreover, the funding made available has been rather limited. More importantly, participation from Asia in general and from Southeast Asia in particular has been marginal.[31] Perhaps the INCO-DC programme could be viewed as an activity of symbolic importance, as it has

[30] The budget allocated to developing countries in the INCO-DC was €227.3 million (43% of the total budget of €585 million). The EU allocated the same amount for co-operation with the Central and East European Countries (CEEC) and the Newly Independent States (NIS), while the remainder went towards collaboration with the Industrialised Countries (5.5%) and the Other Fora (8.5%). This allocation indicates that the EU's priorities are in favour of balancing co-operation in S&T between developing and non-EU European countries. (CEC, 2000b, pp. Annex III, pp. 57–8).

[31] ibid



Source: European Commission

Fig. 1. INCO participation of ASEAN countries (number of participants in signed contracts)

initiated a dialogue with Southeast Asian countries in order to involve them in a more substantial way in the current INCO-DEV programme and its successor. Figure 1, showing INCO participation by ASEAN countries during the period 1995–98 and 1998–2002, indicates that Thailand has been its main beneficiary, followed by Indonesia, Vietnam and the Philippines.

From a European point of view, the INCO-DC and the preceding STD programmes played an important role in supporting collaborative research and networking with developing countries (CEC, 2000b). In many respects, the concept of partnership between the EU and developing countries became stronger. The EU experienced a net gain from its interaction with such countries, as scientific knowledge travelled in both directions. From the evidence of our interviews, it is clear that some international learning is taking place, especially among the academic and scientific communities of Europe and Southeast Asia, but the extent and benefit of such international learning is a matter of debate. It is acknowledged that the funds that have been available for INCO projects have not been substantial enough to retain the interest of the European research community in this programme. There are also weaknesses in the co-ordination of international co-operation between the EU and the national policies of its member states. Moreover, the inherent staff deficit of the Commission's representation offices in Southeast Asia and elsewhere[32] hampers intergovernmental co-operation. In this respect the European Commission is lagging behind other agencies, for instance those of the US.

[32]In 2000, the EU had only four full-time science counsellors (at its delegations in Washington (2), Tel Aviv and Tokyo), and three part-time S&T officers (in Australia/New Zealand, South Africa and Canada). They are all accountable to the EU's External Relations Office (Voyer 2000; p. 22).

There are some grounds for arguing that there have been different stimuli behind the EU's INCO policies. According to the European Commission's 1994 Communication document, INCO was a means of promoting the competitiveness of the European economy, and S&T co-operation with Asia would possibly open up prospects for commercial co-operation. In contrast, the Commission's 2001 Communication document sees INCO as a means of providing solutions to global problems that beset humanity. But to what extent has this re-conceptualisation of S&T co-operation with Southeast Asian countries taken place in practice? One way of providing a satisfactory answer is to analyse how INCO funds are allocated to Southeast Asian countries, and this is what we turn to in the following section.

INCO participation by Asian countries: A statistical analysis

Analyses were undertaken on the data sets based on the INCO Statistical Overview on RTD Co-operation in FP IV, as reported in Annex III of the INCO Five Year Assessment Report (CEC 2000b). The aim of the analysis here is twofold: firstly, to find out whether there is a relationship between INCO data (i.e. the number of proposals received, contracts signed, and funds awarded to Asian participants) and data representing the size and levels of economic growth of Asian developing countries; and secondly, to explore the relationship of INCO participants to the state of science and technology in their respective countries. However, it is not possible to access a complete and homogenous set of data for all the developing countries. Even the data made available by the World Bank for Science and Technology – in terms of the number of scientists and engineers in R&D, scientific and technical journal articles produced, expenditures for R&D, and numbers of patent applications filed by residents and non-residents – are incomplete. The exception is data on economic size (GNP) and level of economic development (GNP per capita), which are available for all developing countries.

The number of Asian participants in proposals received by the European Commission ($PRODC_a$), the number of contracts signed ($COND_a$) and the amount of funds in millions of euro allocated to each country ($INCOM_a$) correlate highly with the economic size of Asian and Asian-Pacific developing countries (GNP) (Table 2). This suggests that the bigger the economy, the greater the number of participants in proposals received, and of participants in contracts signed, and the larger the amount of funding received. The high correlation coefficients ($R^2 = 0.986$, $R^2 = 0.982$ and $R^2 = 0.977$) shown in Table 2 seem to suggest that the quality of INCO proposals may be partially dependent on the economic size of the Asian and Asian-Pacific collaborator's country.

There is no correlation, however, between number of participants, number of contracts signed and amount of funding allocated on the one hand, and the level of economic development of the collaborating country (GNP/Population) on the other ($R^2 = -0.086$, $R^2 = -0.072$ and $R^2 = -0.095$). This implies that there is no flow of funds, either to the least developed or the most developed Asian countries. The scattered distribution of INCO funding does not appear either to have an effect on either closing or widening the technological gap of Asian and Asian-Pacific

Table 2. Correlation (Pearson) between INCO participation (1995–98) and economic indicators of Asian and Asian-Pacific countries

	$PRODC_a$	$CONDC_a$	$INCOM_a$
GNP (n = 21)	0.987	0.985	0.977
GNP/Pop (n = 21)	−0.086	−0.072	−0.095
PATNS (n = 13)	0.567	0.615	0.594
JRNS (n = 16)	0.933	0.867	0.872

$PRODC_a$ = the number of Asian and Asian-Pacific participants in all proposals received, *Source*: EU
$CONDC_a$ = the number of Asian and Asian-Pacific participants in signed contracts, *Source*: EU
$INCOM_a$ = the amount of funds in millions of euro allocated to each Asian and Asian-Pacific country, *Source*: EU
GNP = size of a country's economy (GNP in US; mean for 1995 and 1998), *Source* World Bank
GNP/Pop = level of development (GNP per capita, mean for 1995 and 1998), *Source*: World Bank
PATNS = number of patent applications filed in 1998, *Source*: World Bank
JRNS = scientific and technical journal articles published in 1997, *Source*: World Bank

developing countries. If the EU wanted to allocate research funding on the premise of international co-operation beneficial to itself, it would favour not only the biggest Asian countries but also the most developed ones. If, however, the criteria on funding were based on the belief that the EU should assist in the alleviation of poverty, by providing assistance primarily to the poorest Asian countries, we would expect a negative correlation between a high amount of funds and low levels of economic development. Moreover, there is no correlation between allocated funds and some variables used as proxies for countries with an S&T capability approximated to the number of scientists and engineers involved in R&D, and to the amount of funds spent on education. Nevertheless, there is a weak correlation between INCO contracts awarded to Asian and Asian-Pacific developing countries and the number of patents filed by residents and non-residents, bearing in mind that the greater bulk of patents have been registered by the latter rather than the former.

Finally, there is a strong correlation between the number of INCO contracts and amount of funding awarded, and bibliometric output in the form of scientific and technical journal articles published. Therefore, it can be said that INCO funds seem to be allocated to developing Asian and Asian-Pacific countries which have the capacity to produce a greater scientific output in the form scientific articles and, to some extent, patents, both of which could be of benefit to the EU.

The above assertions are confirmed by Ordinary Least Square (OLS) regression analyses of all INCO data, as well as just data relating to Asian and Asian-Pacific participating countries. These analyses (Table 3) indicate the combined influence of the variables used in the correlation investigation. They suggest that the EU is more likely to award S&T contracts and funding to developing countries with large economies, hence the positive sign of the GNP variable and its high significance level. These large economies happen to be the less developed, hence the negative sign – albeit of only moderate significance – of the GNP/capita variable. At the same time, the EU is tends to award both S&T contracts and funding to non-Asian countries (hence the negative sign of the dichotomous variable ASIANC, denoting Asian and Asian-Pacific

Table 3. INCO participation (1995–98) of Asian and Asian-Pacific countries

	$COND_{dc}$[a] (1)	$INCOM_{dc}$[a] (2)	$INCOM_{dc}$[a] (3)
Constant	17.876	1.057	3.102
	(2.54)***	(2.55)***	(2.36)**
GNP[b]	4.065	0.226	0.741
	(5.31)****	(5.01)****	(3.76)***
GNP per capita[b]	−2.011	−0.124	−0.645
	(−1.92)**	(−2.01)**	(−2.24)**
JRNS	0.0084	0.0006	0.0004
	(7.27)****	(9.72)****	(3.61)****
ASIANC	−8.327	−0.343	−1.450
	(−2.46)***	(−1.72)*	(−2.94)***
CPI			0.209
			(1.19)
R^2	0.601	0.684	0.758
Adjusted R^2	0.585	0.672	0.719
F	38.71	55.70	19.45
Probability	0.000	0.000	0.000
N	108	108	37

Notes: t-ratios in parentheses
Significance levels: *p < 0.1; **p < 0.05; ***p < 0.01; ****p < 0.001 (two-tailed)
[a] Includes data from all developing countries
[b] The natural log was taken

countries) and to countries with a large scientific output.[33] This output is in the form of scientific and technical articles, hence the positive sign and the high level of significance of the JRNS variable. However, the incorporation within the regression of the remaining proxy variables corresponding to level of R&D capability in the form of number of patents produced, number of available scientists and engineers, and expenditures in education, did not increase the prediction capability of the regression models. They were therefore not included in the analyses shown in Table 3. In addition, the assertion that the EU will not collaborate with and provide funding to developing countries with a high degree of corruption in government and public administration is not confirmed. The Corruption Perception Index variable (CPI), compiled by Transparency International in 1999[34] for only 37 developing countries, does not attain statistical significance, although it carries a positive sign. From the above analyses it appears that self-interest underlies the policy objectives that support the INCO-DC fund allocation towards Asian and Asian-Pacific

[33]It is important to note that, with regard to obtaining funding, the highest success rate in participating countries in the INCO-DC programme of the FP IV is found among the African, Caribbean and Pacific (ACP) countries, rather than in Asia or Latin America. This is more likely to be attributable to the 'institutional proximity' of ACP countries, given their long-term agreements with the EU, than to the fact that higher quality proposals were submitted by these countries (CEC 2000b). This is corroborated by the statistical analyses of overseas development assistance by the EU as a whole, and by Germany, France and the UK individually, between 1980 and 1995, which shows that the EU does indeed favour ACP countries (Zanger 2000).
[34]The data can be found at www.transparency/org/cpi/1999/cpi1999.html

countries. However, there is also a humanitarian element to this funding allocation.

Conclusions: Patterns of change in scientific co-operation

This paper aimed at explaining the evolution, substance and priorities of EU-ASEAN co-operation in S&T. The analysis allows for the following conclusions to be made. Firstly, the internationalisation of R&D influences the S&T policies of both regional groupings, in particular the way in which supranational institutions bargain and adopt policies that reflect their economic, political and cultural priorities. Secondly, the paper detects a re-orientation of EU priorities in the area of scientific collaboration with Southeast and East Asia that runs in parallel with the recent re-evaluation of the relationship between the EU, ASEAN and ASEM. The analyses of data based on the EU's International Co-operation Programme for Developing Countries reveals that the Union's commitment to sustainable development and humanitarian principles (e.g. alleviation of poverty) is limited by economic self-interest. By contrast, ASEAN's motives for inter-regional co-operation with the EU are based mainly on political and economical considerations. External crises such as the Severe Acute Respiratory Syndrome (SARS) epidemic and severe environmental problems may be changing overall attitudes towards research in human health and the environment. Thirdly, the achievements of the EU-ASEAN collaboration in S&T in promoting technological progress in Southeast Asia during the last few years are highly questionable. Nevertheless, it can be concluded that EU-ASEAN collaboration in S&T has experienced a steady, albeit modest, growth. Considering the dramatic geostrategic changes within the EU, ASEAN and the rest of the world in the early years of the 21st century, it would seem to be likely that such co-operation will continue in the near future[35]. However, a lack of policy priority by the EU, the continuing instability of Southeast Asian countries in the aftermath of the Asian financial crisis, and the continuing rise of China as an economic and industrial power could weaken inter-regional co-operation in S&T in the long run. But as Rodolfo Severino, the Secretary-General of the ASEAN, points out:

> *'In ASEAN, we see countries that are evolving into more open and more stable societies. Such a region obviously presents larger opportunities for European business – for trade, for investments, for services, for technological exchanges. It is a region that is a strong and worthy partner for Europe.*[36]

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[35] The latest topics chosen for the EU-ASEAN co-operation in S&T include research in agriculture and forest biotechnology, food safety, virtual learning and remote sensing. EU expertise and experience will also be available for the establishment of the *ASEAN Science and Technology Community for Innovation* (ASTICK), in the form of approaches to institutional networking, planning of centres of expertise, promoting researcher mobility, management and co-ordination of programmes, and revenue generations from ASEAN S&T spin-off projects.(http: europa.eu.int/comm/research/iscp/newsletter/2002-11/asia_en.html, accessed 30/05/2003.)

[36] *ASEAN as a Partner for Europe*, Address by Rodolfo C. Severino, Secretary-General of ASEAN, at the ASEAN-EU Conference, Brussels, 28 June 2001, reprinted in the *ASEAN Economic Bulletin*, Vol. 18, No. 3, pp. 337-341.

Nevertheless, the question still remains as to how collaboration between Europe and ASEAN that moves beyond the donor-recipient relationship can be advanced towards the 'equal partnership' called for in the EU's Asia strategy. A closer regional integration of Southeast Asia[37] might be desirable as a stepping stone towards inter-regional scientific and technological co-operation. In the medium to long term, this could prove to be indispensable for the reinvigoration of ASEAN's crisis economies.

Despite the events of 11 September 2001, as well as the continuing political tensions in the Middle East and other parts of Asia, the EU does not appear to have restricted its co-operation in R&D. Given the universal character of scientific knowledge, as well as the global nature of science-based issues facing the EU, the Union was obliged to renew its interest in collaborating in science and technology projects with developing countries, by allowing them for the first time to participate in all European R&D programmes. It can therefore be said that, as well as increasing sophistication in the development of S&T policy, the European Union is not only maintaining but also augmenting its long-standing commitment to scientific co-operation with ASEAN, despite its preoccupation with the imminent accession of ten new member states. To paraphrase Rodolfo Severino, the EU is equally a strong and worthy partner for ASEAN.

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[37]Most recently, ASEAN foreign ministers have urged Myanmar to accept United Nations mediation in seeking a compromise between the regime and pro-democracy leader Aung San Suu Kyi ('*Asean urges Myanmar to accept role of the UN*', The Strait Times, 17 June 2003). This statement is an unusual departure from ASEAN's policy of non-interference in member states' internal affairs and will please the Association's dialogue partners.

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