DG XII

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Contents

1. EVOLUTION OF DG XII'S INVOLVEMENT IN TROPICAL FORESTRY

1.1 Establishment of the Framework Programme on Science and Technology for Development

In 1980 the Second United Nations Conference on Science and Technology for Development drew attention to the need for a greater research and development effort to improve the living conditions of the world's poorest populations (European Commission, no date). The resulting Vienna Programme of Action had two main objectives: to strengthen the scientific and technical resources of developing countries and to reorganise the existing procedures governing international relations in the field of science and technology (European Commission, 1989). These provided the background for a Resolution by the Council of Ministers, dated 18 November, 1980, which underlined the importance of developing research capacities oriented particularly towards food crop production in developing countries, and the need to promote complementarity between research centres in the European Community and in developing countries (European Commission, 1989).

Following this, in 1982, the Council of Ministers adopted, for an initial period of three years (1983–6), a Framework Programme of Science and Technology for Development (STD). Managed by Directorate-General XII for Science, Research and Development, this programme provided support for research in the two critical areas of tropical agriculture, and tropical medicine, health and nutrition (European Commission, 1989). The first phase (STD1) concentrated on promoting the existing tropical research capacity in European institutions. It was evaluated as having been successful, fulfilling its aims through high quality projects (Wilson *et al.*, 1988). The demand was such that only 60% of the proposals which were considered 'worth funding' could actually be supported. The Evaluation Committee (see section 6) therefore recommended that the programme be continued for a second framework period and with an increased budget.

1.2 STD2 and STD3

The increased budget of the second Framework Programme (STD2, 1987–91) was justified by the recognition that developing countries 'are hard hit by the economic crisis and [that] budgetary restrictions at national level seriously threaten allocations to agricultural research at a time when demographic trends make it necessary for them to be increased' (European Commission, 1994a).

STD2 and STD3 continued with the same general objectives and research themes. They gave more emphasis, however, to previously neglected sectors such as production systems and – in response to the Commission's commitments in various international fora – to sustainable management of the environment (European Commission, 1996a). None of the STD Framework Programmes had a specific budget line for tropical forestry. Forestry-related projects were funded as part of agriculture, and particularly within the following subsectors: improvement of agricultural production; conservation and better use of the environment; and production systems (European Commission, 1989).

1.3 The Fourth Framework Programme (INCO-DC)

Following the ratification of the Maastricht Treaty on European Union in 1992, all Community activities in the field of research, technological development and demonstration were brought together within the 'European Community Framework Programme for Research and Technological Development (RTD)'. The fourth Framework Programme, which was adopted in 1994 with a duration of five years (1994–8), comprises four activities:

(1) RTD and demonstration programmes;
(2) co-operation with third countries and international organisations (INCO);
(3) dissemination and exploitation of results;
(4) stimulation of the training and mobility of researchers.

Activity 2, also known as 'INCO', aims to add value to Community RTD through targeted co-operation with activities external to the Community (European Commission, 1996b). It is further subdivided into three parts:

A. Scientific and technological co-operation in Europe
B. Co-operation with non-European industrialised third countries
C. Scientific and technological co-operation with developing countries

Research related to developing countries is funded within the third of these parts, commonly abbreviated as 'INCO-DC'. Its principal aim is to enable developing countries 'to be associated with the generation of knowledge and innovative and appropriate technologies necessary for the solution of their specific problems and to reach a sustainable development level' (European Commission, 1996b). Its main objectives are:

- to promote the role of relevant high quality RTD in development and economic co-operation;
- to encourage scientific collaboration between Europe and developing countries, among developing countries, and within Europe;
- to help reinforce and maintain RTD capacities, including human capital in developing countries;
- to contribute to maintaining a competence in Europe in scientific sectors of mutual interest and in those pertinent to problems of developing countries;
- to capitalise on the experience gained during the implementation of previous Community Science and Technology co-operation activities;
- to take into consideration the political obligations of the Union and the recommendations of international fora such as the Rio Conference (UNCED – Agenda 21) concerning research in developing countries.

The general objectives of INCO-DC are wider than those of its STD forerunners. It includes activities

previously implemented under the umbrella of economic co-operation policy such as the programme of International Scientific Co-operation (bilateral co-operation in RTD fields of interest to a non-EU country) and AVICENNE (regional RTD co-operation with non-EU Mediterranean countries in fields of mutual interest to the entire Mediterranean region). It places greater emphasis on funding activities that support or complement other EC policies and the Community's political commitments (such as those arising from the UNCED Conference).

The focus of INCO-DC is on regional issues of mutual interest to the collaborating agencies. It will, however, support the involvement of developing country scientists in topics of global importance that extend beyond regional boundaries and need to be dealt with in a global context. These issues include the assessment and conservation of natural resources, the greenhouse effect, pollution, desertification, control of urban growth, pandemics and communicable diseases (European Commission, 1996b).

The thematic content of INCO-DC is considerably broader than that of the preceding STD programmes and covers four sectors, each of which has a dedicated budget:

- sustainable management of renewable natural resources, with subsectors on policy research, basic natural resources and research on ecosystems;
- sustainable improvement of agriculture and agro-industrial production, covering production systems, applied socio-economic sciences, post harvesting technologies, crop production, animal production and silviculture;
- health;
- additional sectors of mutual interest, which include information and communication technologies, non-nuclear energy, biotechnology, materials and production technologies (European Commission, 1996b).

Forestry research can be funded under three of the above sectors, with slightly different emphases. Within the natural resources sector, the ecosystems subsector funds research on natural forests, including, for example, such topics as biodiversity assessments and genetic studies, and also agroforestry and the socio-economic aspects of buffer zone management. Within the agriculture sector, the silviculture subsector focuses particularly on man-made forests and forest industries. Lastly, the additional sectors of mutual interest may also offer funding opportunities for topics such as remote sensing, biomass (fuelwood) production and processing, or genetic engineering of trees (*Official Journal*, 15 March 1996).

2. STRUCTURE OF AID DELIVERY

2.1 Budget allocation

For STD1, STD2 and STD3, the Council of Ministers was responsible for adopting each Framework Programme together with its budget. Since the ratification of the Maastricht Treaty (1992), this is now the joint responsibility of the Council and the European Parliament. Together they allocate the total Framework budget and determine how it is to be split between the different areas (such as INCO) and activities (e.g. INCO-DC). Within INCO-DC the distribution of the budget to the four sectors (natural resources, agriculture, health, and additional sectors) must also be approved by both the Council and the Parliament (European Commission, 1996b). There is no budget specifically earmarked for activities related to tropical forestry. Forestry proposals must, therefore, compete with other proposals in each of the relevant sectors. Beese (no date) has suggested that the initially low levels of funding for tropical forestry were due to the small number of proposals received rather than the prioritisation of other sectors.

Advice is provided by the INCO Regulatory Committee, consisting of representatives of the Member States (often from the Ministry for Research or the Ministry for External Relations). This Committee meets on an *ad hoc* basis whenever new decisions concerning the Programme need to be taken. Its advice feeds into the preparation of a work programme by the Commission (DG XII), which must then be endorsed by the Committee.

Each Framework Programme has several calls for proposals (see section 5.1) and it is the responsibility of the officers in DG XII to divide the programme budget equally among these (three in the case of INCO-DC). DG XII has about 30 people working on INCO-DC, of whom 16 are professionals. Only one of these is concerned (part-time) with tropical forestry projects.

As can be seen from Table 1, each Framework Programme has had a bigger budget than its predecessor. The volume of funding for agricultural research has also risen from ECU 30 m. (STD1) in 1983 to ECU 126 m. (INCO-DC) in 1994. As a proportion of the total, however, funding for agriculture has declined from 75% to 60% over the same period. Nevertheless, forestry funding has increased both in terms of value (from ECU 2.2 m. in STD1 to ECU 15.8 m. in STD3), and as a proportion of the total Framework budget (from 5.5% in STD1 to 13% in STD2 and STD3).

2.2 Co-funding

All projects supported through the Framework Programmes are co-funded, with the Commission's contribution not normally exceeding 50% of the total project costs. Project proposers are expected to match the funding provided. Where the accounting procedures of a collaborating institution are not able to identify the exact project costs (e.g. proportions of salaries, capital and maintenance costs), the Commission will pay up to 100% of any additional incremental costs incurred. These may include additional staff needed for the project, capital equipment, direct running costs (e.g. travel, computing) and indirect overhead costs that are necessary to support the research (European Commission, 1996b).

2.3 Accompanying measures

A fund for accompanying measures is included in INCO-DC under the 'Additional Sectors of Mutual Interest'. Consisting of about ECU 2.5 m. per year, it is used to finance meetings, networks, liaison with international organisations, training and dissemination of results (European Commission, 1996b). The only

Table 1: Total budgets (in ECU m.) of successive Framework Programmes and the amounts and percentages dedicated to agriculture and forestry

Framework Programme	Total budget (ECU m.)	Agriculture[a] ECU m. and as percent of total	Forestry (ECU m.)	Forestry as % of agriculture	Forestry as % of total
STD1 (1983–86)	40	30 (75%)	2.2	7 %	5.5%
STD2 (1987–91)	80	50 (63%)	10.4	28 %	13%
STD3 (1991–94)	124	73 (59%)	15.8	22 %	13%
INCO-DC (1st Call, 1995)	59	39 (66%)	4.8	12 %	8%
INCO-DC (1994–98)	209	126 (60%)			

(Source: Data calculated from DG XII Archives)

[a] The agriculture budget includes all forestry activities. In the case of INCO-DC, the figure comprises money spent under the subsectors 'natural resources' and 'agriculture', both of which fund forestry projects.

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activity related to tropical forestry that has been financed through this fund is the European Tropical Forest Research Network (see section 6).

3. STRATEGY AND POLICY

3.1 Definition of 'research'

The definition of research given in the information package accompanying the Call for Proposals (European Commission, 1996b) emphasises two conditions:

- projects must be pre-competitive, i.e. the research results would require further development to produce marketable products or processes;
- projects should be innovative, representing a step forward in the state of the art and including substantial original work.

Both these conditions ensure that the Framework Programme funds pure rather than applied research. INCO-DC covers scientific research activities but does not fund technical assistance and the supply of infrastructure, nor the unilateral transfer of technology or demonstration projects. For these and other applied research activities there are more appropriate sources of funding, such as the various budget lines in DG IB and DG VIII, with which INCO-DC aims to collaborate.

3.2 Definition of 'tropical forestry'

A definition of tropical forestry does not exist within DG XII. Beese (no date) states that 'the orientation of forestry research under the STD programme is not the result of strategic selection after receiving proposals'. Similarly, the evaluation of the STD2 programme noted that 'the subject areas covered ... merely reflect the submission of proposals rather than a defined policy of priorities' (Nelson *et al.*, 1992).

Thus, the exact types of projects funded within the forestry sector are at least partially dependent on the scientific officer in charge of tropical forestry. Originally this officer was an agricultural economist, followed from 1992 to 1994 by a microbiologist and, most recently, by an industrial forester. The latter classified all projects dealing with 'woody plants' as projects on tropical forestry. This approach is in line with the current inclusive approach to forestry, covering everything from shrubs to non-timber forest products.

It is this broad definition of forestry that has been used in calculating the data relating to forestry projects in this chapter. For this it was necessary to examine the summaries of all funded projects and subjectively assign them to a 'forestry' or 'non-forestry' category. In so doing, forestry was considered to include all activities from agroforestry and natural forest management to tree breeding and physiology (see section 4.4).

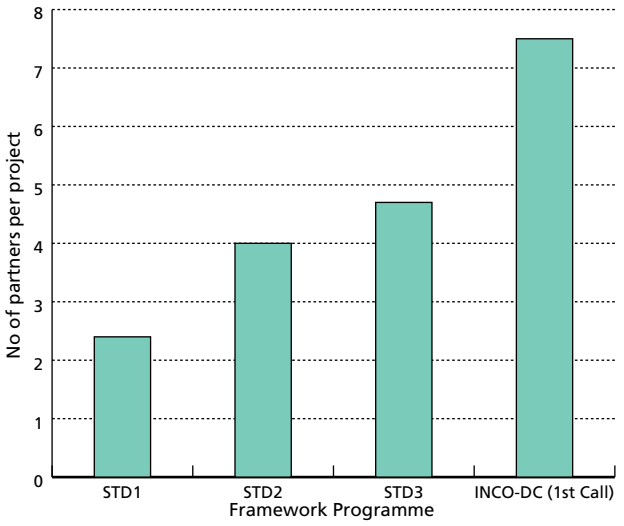
3.3 Tropical forestry strategy

The lack of a definition of tropical forestry is probably related to the fact that there is no fund specifically earmarked for this sector, nor a strategy relating to tropical forestry research. In response to a recommendation by the STD2 evaluation panel, a policy on EC research is under preparation. A first draft was proposed to the Council in December 1996. However, this policy deals more generally with agriculture and provides little specific guidance on forestry. Potentially the most relevant document is the 1995 Council Regulation on 'Operations to Promote Tropical Forests', but its effect on the Programme objectives and content has yet to be ascertained.

As will be seen in section 4.4, the projects funded under the three STD Framework Programmes were heavily weighted towards research on mycorrhiza and genetic improvements of single tree species, the latter being predominantly economically important species such as coconut and date palms, or species useful for wood production and soil conservation. This was in line with the Frameworks' emphasis on improving the food supply in developing countries and their resulting focus on agricultural production.

With the start of STD2 (1987–91), many of the projects stated that one of their main objectives was to achieve the 'sustainable use' of particular resources. This may have been in part as a result of the STD1 evaluation, which required that all agricultural proposals should include an assessment of their potential environmental impact (Wilson *et al.*, 1988). There was no obvious change in the types of project funded, however, until the present INCO-DC Framework Programme, which has taken on board many of the

Figure 1 **Mean number of partners per forestry project**



(Source: Based on DG XII archives; European Commission, 1989, 1994a, 1995, 1996a)

issues highlighted by the UNCED Conference in 1992.

As already outlined in section 1.3, INCO-DC now includes a sector on the sustainable management of renewable natural resources in addition to the original agriculture and health sectors of the STD Programmes. Its focus is on promoting the conservation and use of natural resources in ways that are ecologically, economically and socially sustainable (European Commission, 1996b). Judging by the first Call for Proposals (1995), under which seven forestry projects have been funded, there has been a complete move away from the relatively 'pure' genetics and mycorrhiza projects of the STD Programmes to more 'applied' research (see section 4.4).

The time-lag between changes in the international debate on forestry and their impact on the funding priorities of the STD and INCO-DC Programmes can in part be explained by the fact that the specific objectives, work programme and budget are decided at the beginning of each Framework Programme (*Official Journal*, 15 March 1996). It is difficult, therefore, quickly to adapt the direction of the research thrust in response to regional and global developments. The officers responsible for INCO-DC do have a certain amount of flexibility, however, as new priorities within the scope of the overall Programme objectives are set for each Call for Proposals (European Commission, 1996b). Furthermore, the timely evaluation of each Framework Programme allows appropriate action to be taken for the subsequent Programmes (Nelson *et al.*, 1992). Thus the recommendation by the STD1 evaluation team that support for tropical forestry research should be increased, did result in more than a doubling of the proportion of funding going to forestry in STD2 (see Table 1).

4. ANALYSIS OF PROJECTS BY REGION, TYPE AND SIZE

4.1. Number of projects

As shown in Table 2, the number of projects related to tropical forestry increased from 16 (STD1) to 33 (STD2) and 34 (STD3). Under the first Call for Proposals of INCO-DC seven forestry projects were selected for funding out of a total of 71 projects in the agriculture and natural resources sectors. This proportion is slightly lower than in the previous two Framework Programmes but may still be increased in the second and third Calls for Proposals.

4.2 Number and type of partner institutions

As can be seen from Figure 1, the number of partners collaborating on forestry projects has been increasing steadily from STD1 to INCO-DC. Under STD1 all projects focused on bilateral North-South partnerships, mirroring the traditional form of Member States' co-operation. The increase under STD2 was due to the incorporation of more North-North links into projects. Thus 85% of STD2 projects involved more than one EU Member State, compared with only 25% in STD1. From STD3 onwards, the involvement of at least two EU organisations and one partner institute has been a requirement (European Commission, 1994b). INCO-DC goes even further and favours projects with more than one Southern participant (European Commission, 1996b), such that, in the seven projects funded in the first Call for Proposals, the ratio of European to developing country partners is about 1:1.

The successive Frameworks have seen a gradual improvement in the quality of the North-South partnerships within projects. Under STD1 several projects included developing country institutions which were, in fact, the local 'branch' of the EU partner (European Commission, 1989). Others had contracts that did not

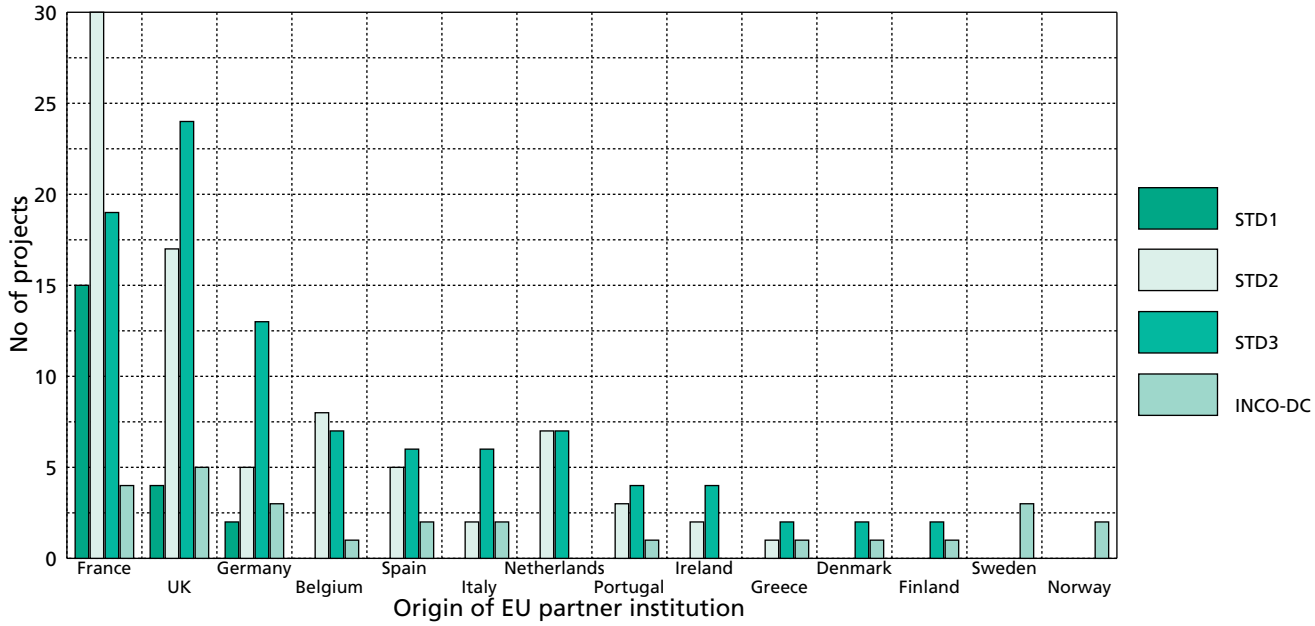
Table 2: **Number of agriculture and forestry projects in successive Framework Programmes**

	STD1	STD2	STD3	INCO-DC[a] (1st Call)
Agriculture proposals received	1280	1632	1283	669
Agriculture projects funded (including forestry)	228	179	157	71
Forestry projects funded	16	33	34	7

(Source: Based on DG XII archives; European Commission, 1994a, 1996a)

[a] Under INCO-DC 'agriculture' is taken to include both the 'natural resources' and 'agriculture' sectors, as forestry projects can be funded under both.

Figure 2 **Origin of EU partner institutions in forestry projects**



(Source: DG XII archives; European Commission, 1989, 1994a, 1995, 1996a)

Note: Where two or more institutions from the same country have participated in the same project, they have been counted separately.

specify how the money would be distributed between the partners (Nelson *et al.*, 1992). This may have been because of the initially weak research capacity of many Southern institutions, resulting in projects which were initiated and defined by the EU partner rather than being the result of true collaboration. From STD2 onwards this situation improved, and from STD3 on all contracts have had to contain detailed information about the distribution of money among the participants and have required the partners to be non-affiliated (European Commission, 1996b). In all four Framework Programmes universities and research organisations have received the largest share of funding for tropical forestry research, while government and non-governmental organisations have played only a minor role. The majority of projects have been and still are proposed by European research institutes (Nelson *et al.*, 1992).

4.3 Geographic spread of partner institutions

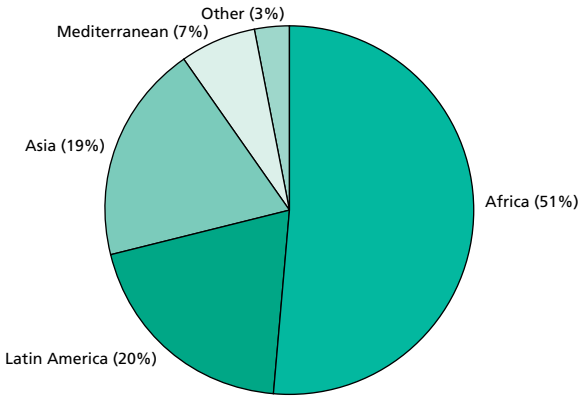
4.3.1 European partners

Figure 2 shows the distribution of EU project partners in the successive Framework Programmes. Under the initial STD1 Programme, 15 out of a total of 21 participants were French, with the remainder being British or German. Since then, research groups from most of the EU Member States have participated in a number of projects, although French and British institutions account for over half the total number of forestry project participants to date. This is likely to be primarily attributable to the colonial history of these two countries and their resulting larger number of tropical research specialists. As projects are selected with regard to their scientific quality, DG XII prefers to fund ten high-quality projects proposed by the same country rather than ten projects of a lower quality proposed by several countries (Beese, no date).

4.3.2 Southern partners

The programme differentiates four regions within the South: Asia, Africa, Latin America and the Mediterranean region. Over half of the developing country participants in forestry-related projects to date have been from Africa (Figure 3), with Senegal (16 projects) and Côte d'Ivoire (12 projects) receiving a particularly large share of funding. The dominance of African countries represented in the projects is not because of a preference for collaboration with Africa but results from the low number of Asian and Latin American partners in the proposals submitted (Beese, no date). The high percentage of Francophone West African countries is probably correlated with the dominance of French research institutes participating in the programme. Within Asia it is Malaysian and Indian institutes which have been most actively involved (6 projects each), while Brazilian institutes have been the most frequent participants (10 projects) from Latin America.

Figure 3 **Distribution of developing country partners in tropical forestry projects (1983–1995)**



(Source: DG XII archives; European Commission, 1989, 1994a, 1995, 1996a)

Recently the number of projects with more than one Southern partner has been increasing. In these projects South-South links are almost entirely between institutes in the same country or region, and only rarely involve institutes from more than one region.

4.4 Thematic spread

There has been no official categorisation of the forestry-related projects funded by the Framework Programmes so far. The thematic analysis in Table 3 is based, therefore, on project summaries provided by the applicants (DG XII archives; European Commission, 1989, 1994a, 1995, 1996a). The different research themes have broadly been grouped as being 'pure' or 'applied' in nature. Projects listed under pure research deal with single species, their genetic improvement, their physiology, etc., and mostly aim to improve the production of woody biomass. This type of project was clearly predominant in the early Framework Programmes, and still made up the majority in STD3. Nevertheless, by the time of STD3, nearly half the projects could be classed as 'applied' and were more concerned with forest ecosystems as a whole. The latter is the only kind of project that has been funded under the first Call for Proposals of INCO-DC, indicating that there has been a clear shift in priorities. To what extent this shift is the result of a policy decision in DG XII or merely reflects a shift in the type of proposal being submitted is unclear (see also section 3.3).

4.5. Project size and duration

As shown in Figure 4, the average size of forestry projects has quadrupled over the period of the four Framework Programmes, rising from ECU 136,000 (STD1) to ECU 682,000 (INCO-DC). The largest project funded under STD1 (worth ECU 400,000) was smaller than the smallest project funded under INCO-DC (nearly ECU 500,000). In part this increase in scale is accounted for by the greater number of partners involved in recent projects. The amount received per partner has only risen from around ECU 57,000 (STD1) to ECU 99,000 (STD3), and even dropped slightly to ECU 90,000 in the first Call for Proposals of INCO-DC.

In general, it is the EU partners who receive the largest share of project budgets. This is explained by a number of factors (J. Kreysa, former DG XII scientific officer in charge of forestry, pers. comm., 1996):

- salaries of EU researchers tend to be two or three times higher than those paid in developing countries;
- travel expenses for developing country researchers to come to Europe are usually included in the budgets of their EU partners;
- equipment costs are often included in the budget of the project coordinator (usually in the EU), because the export of research equipment is tax-free and therefore cheaper than equipment purchased in the developing country.

The average duration of projects has increased from 30 months (STD1) to 40 months. The great majority of

Table 3: Thematic content of forestry-related projects

Theme		STD1	STD2	STD3	INCO-DC (1st Call)
Pure research	Genetic improvement of single tree species	3	9	7	—
	Nitrogen fixation, mycorrhiza, symbiosis	6	10	7	—
	Physiology	—	1	3	—
	Genetic diversity of economically important trees	1	1	2	—
Sub-total		10	21	19	0
Applied research	Ecosystem modelling	—	1	5	1
	Agroforestry, agro-silvo-pastoralism	2	5	3	—
	Non-timber forest products	—	—	2	1
	Conservation	—	—	1	—
	Reforestation	—	—	1	1
	Wood market (fuel, construction)	—	1	—	1
	Inventory, natural resources management	2	3	2	1
	Entomology	2	—	—	1
	Energy	—	2	—	—
	Networking	—	—	1	—
Sub-total		6	12	15	7
Total		16	33	34	7

(Source: DG XII archives; European Commission, 1989, 1994a, 1995, 1996a)

projects – over 90% – are funded for either 36 or 48 month periods.

5. PROJECT CYCLE MANAGEMENT – INCO-DC

5.1 Calls for proposals

Under INCO-DC there have been three Calls for Proposals (1995, 1996 and 1997), each one specifying research priorities covered by the work programme. Calls are usually made in March and proposals have to be submitted by September. They are evaluated by the following February and contracts for successful projects may be signed from June onwards (European Commission, 1996b).

5.2 Eligibility requirements

The proposal must fall within the scope and objectives of the work programme and respond, in particular, to the terms set out in the current Call for Proposals. All proposals must involve at least two non-affiliated participants from different Member States or one participant from a Member State and one participant from a state associated with the Programme (Iceland, Liechtenstein, Norway, Israel). Projects must have at least one participant from a developing country and preference is given to proposals involving at least two non-affiliated participants from developing countries in the same region. Projects are expected to demonstrate a significant and balanced level of participation between all partners (European Commission, 1996b). Proposals can be submitted by industrial firms (of any size), universities and higher education institutions, research organisations, governmental organisations, NGOs, etc.

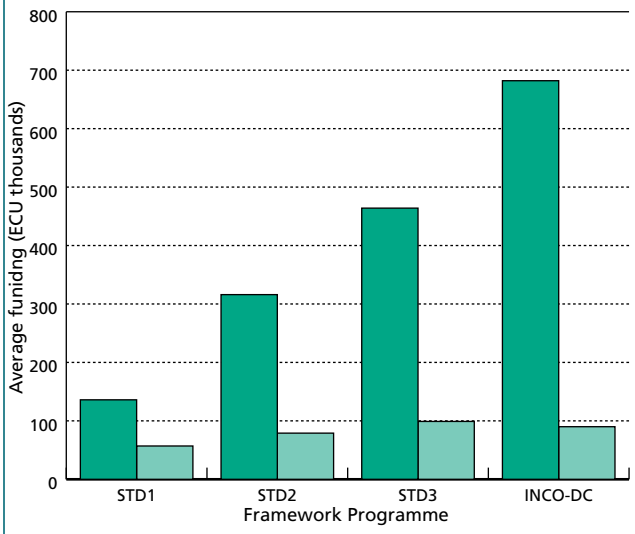
5.3 Evaluation and selection of proposals

DG XII staff verify the eligibility of the proposals received. Each proposal then undergoes a confidential scientific evaluation by three independent experts, chosen from an 'expert data-base' of highly reputed scientists, most of whom have been recommended by members of the INCO Regulatory Committee. During a period of three weeks about 200 experts evaluate the proposals with regard to their technical feasibility and their scientific relevance. The expert evaluation produces a shortlist containing about 40% of the original project proposals.

After the scientific evaluation, 32 regional experts (eight for each of the four regions of Asia, Latin America, Africa and the Mediterranean) from developing countries are invited to assess the relevance of the proposals for their region. This consultation further reduces the shortlist to about 20% of the original proposals (European Commission, 1996b; J. Kreysa, pers. comm., 1996). This shortlist is subject to external consultation with international organisations and other donors engaged in the funding of projects in the South. These organisations investigate whether the same or a similar project is being, or has recently been, funded, and whether there are related projects in the region.

Parallel to the external consultation, an internal consultation with Commission services concerned with RTD activities in the South (DG IB, DG VIII) takes place. The internal consultation process is comparable with the external. Its additional goal is to confirm that the project proposals comply with DG IB's and DG VIII's agreements with developing countries (e.g. the Lomé Convention). Although demonstrating a commitment to better collaboration between different parts of the Commission, the internal consultation is often slow and produces little response.

Figure 4 **Average funding (ECU) per forestry project and partner institution**



(Source: Calculated from information in DG XII archives)

At the end of the consultation process, DG XII staff rank the proposals and prepare a final shortlist. In addition to the prime concern about scientific quality, the main criteria for project evaluation are:

- feasible and convincing objectives;
- innovative, original work;
- precompetitive nature;
- realistic scientific, technical and economic benefits for the Southern country, as well as a European dimension to demonstrate the mutual interest of the partners;
- ability for high quality management;
- evidence of impact on sustainable development and coherence with EC or Member States' development activities in the region;
- interdisciplinary approaches where appropriate (European Commission, 1996b).

A Management Committee, consisting of representatives of all the DGs concerned, meets to examine the evaluation process and comment on the final shortlist. Based on this, DG XII staff make a definitive selection.

5.4 Contracts and payments

The successful applicants are then able to negotiate their contracts, providing more detailed financial information, including the distribution of funding between partners, and submitting an appropriate technical annex (the 'project description') for inclusion in the contract. The Commission may require modifications (technical, financial) to the proposal and the whole procedure may take some months to be completed. The technical annex is an important part

of the contract as it defines which research tasks are to be accomplished by each of the contracting parties, as well as fixing a timeframe for the activities. It also provides the baseline against which progress reports are assessed by DG XII staff in order to take decisions about continued funding of the project (European Commission, 1996b).

The project coordinator is responsible for the submission of reports, consolidating and summarising the work of all the contractors. Technical progress reports and cost statements must be submitted to the Commission every 12 months and at the end of the project.

All payments are made in ECU via the project coordinator. An advance payment of approximately 40% of the total EC support is made within two months of the signature of the contract by all the contracting parties. Subsequent payments are normally made annually within two months of the approval of the progress reports. A retention (10% of the EC contribution but not more than ECU 500,000) is withheld until all final documents (technical and financial) have been received and approved by the Commission (European Commission, 1996b). This payment procedure can pose difficulties for smaller research organisations with insufficient reserves to cover their costs in advance. Problems arise in particular because of the delays which can occur between the approval of the interim progress reports and the release of the next tranche of funds by the Commission (Nelson *et al.*, 1992). Small organisations may also be hard pushed to find the necessary resources to cover the cost of preparing the proposal.

BOX 1 The European Tropical Forest Research Network (ETFRN)

Established by the European Commission in 1991, the European Tropical Forest Research Network (ETFRN) is unique amongst DG XII funded projects in not having a specific Southern partner. Its objectives are to:

- encourage EC scientific co-operation;
- initiate EC-developing country joint research activities;
- cooperate with international organisations;
- collect and exchange information;
- participate in EC research planning;
- publish a newsletter.

ETFRN works through national nodes (key research institutions) in the EU and associated countries of the European Free Trade Association. A coordination unit is responsible for the activities of the network, and publishes the ETFRN newsletter to provide information on activities and institutions within and outside Europe. The unit serves as a useful contact point for Southern institutions seeking to collaborate with a European partner in the preparation of joint research proposals (Beese, no date). Originally based in Germany, the coordination unit has recently moved to the Tropenbos Programme in the Netherlands. Funding was initially provided under the tropical forestry sector of STD3 and has been continued under the Fund for Accompanying Measures of INCO-DC. It is planned that ETFRN will become self-financing by the turn of the century.

5.5 Monitoring and evaluation

During the early STD Framework Programmes the scientific officers had time to visit each of the current projects at least once a year. Under the INCO-DC Programme, however, the workload of the scientific officers is much greater and there is less time for monitoring, to the extent that some projects are never visited. Monitoring and evaluation must, therefore, be achieved by reading progress reports and through meetings with the project coordinators who generally come to Brussels once or twice during the project's lifetime (J. Kreysa, pers. comm., 1996; Nelson *et al.*, 1992). In exceptional cases the Commission may ask an independent expert to undertake further analysis of a particular project.

6. PROGRAMME EVALUATIONS

6.1 Evaluation procedures

Each Framework Programme has been subject to an independent external evaluation. Ideally these are meant to be scheduled so that their conclusions and recommendations can feed into decisions about the following Programme. This was achieved for both STD1 and STD2. The evaluation report of STD3, however, is still outstanding.

The evaluation of each Programme is organised by the evaluation unit of DG XII and carried out by an independent panel of experts. In the case of STD1 the panel consisted of three agricultural and two medical experts (Wilson *et al.*, 1988), while five agricultural and four medical scientists were called upon to evaluate STD2 (Nelson *et al.*, 1992). Each evaluation consisted of meetings with Commission staff, reviews of a sample of projects (20% for STD1 and nearly 40% for STD2) based on their progress reports and, in some cases, on-site visits. In the case of STD2, a questionnaire was also sent to project coordinators and participants.

The main objective of the STD1 evaluation, which took place before most of the projects had been completed, was to review the Programme as a whole and make recommendations for its future (Wilson *et al.*, 1988). The STD2 evaluation focused both on individual projects and on issues associated with the Programme as a whole (e.g. whether the promotion of scientific co-operation between EU Member States and developing countries had been achieved; how significant the programme was in terms of strengthening European research capacities; and how relevant it was to the economic and social development of developing countries) (Nelson *et al.*, 1992).

Projects in STD1 were evaluated on the basis of the following criteria: importance of problem; expected impact; scientific quality; efficiency; importance to a) food self-sufficiency, and b) promotion of medicine, health and nutrition; originality; complementarity; and collaboration. The first three criteria were prioritised. Quality was assessed as excellent, good, fair, poor or unacceptable. Over 85% of the 85 projects reviewed were considered to be 'good' or 'excellent' in terms of addressing important issues, having a good expected impact and being of sound scientific quality. 'Efficiency' and 'collaboration' were more often rated as being 'poor' or 'unacceptable'. The evaluation criteria

used for individual projects are not given in the STD2 report.

6.2 Programme achievements

Both evaluations reached many of the same conclusions. The STD Programme was praised for being well designed and extremely cost-effective (with administrative costs being kept as low as 5%). It improved the research capability of developing countries through the input of additional resources to their institutions, and played a particularly important role in contributing to staff development through training. The Programme was considered to have made the Community more widely known and had a positive effect on its image in developing countries. Both evaluations recommended that the Programme be continued with increased funding in order to overcome the financial constraints that had led to some excellent projects having to be rejected.

6.3 Constraints and recommendations

While the STD1 evaluation had commended the small and focused nature of projects funded by the Programme, the STD2 evaluation considered that these were too costly in administrative terms. This was particularly true, given the inadequate staffing levels which severely limited the ability of Programme officers to provide advice on project preparation and to monitor and evaluate projects. The second evaluation recommended both an increase in the number of Commission staff and the establishment of external expert panels to strengthen the monitoring and follow-up of projects. It highlighted particular dissatisfaction amongst project participants about the delays that could occur in the transfer of funds from the Commission, leading to a situation in which Northern institutions regularly had to provide bridging funding to their Southern partners.

Both evaluations highlighted shortcomings in the nature of the collaboration between Northern and Southern partners. Individual responsibilities needed to be better defined and efforts made to ensure that linkages were of 'mutual benefit in the spirit of true partnership' (Wilson *et al.*, 1988). The STD2 evaluation recommended that planning and review meetings for all partners should be budgeted for and enforced in all projects.

With respect to thematic priorities, the STD1 evaluation noted that the balance between technical areas was good. Within agriculture, however, it recommended a change in emphasis away from improving 'food self-sufficiency', with its narrow focus on food crops, towards achieving 'food security', which would include projects dealing with important non-food crops such as cotton, trees and forests. On the whole it was recommended that greater multi-disciplinarity be promoted in projects, a feature considered to be particularly important for tackling the complexity of agricultural problems. While the STD1 evaluation praised the diversity of projects funded, the STD2 evaluation thought that too many subjects were being covered with insufficient attention being given to identifying research thrusts. It noted the absence of a clearly defined EC policy on research in agriculture and health, as well as a lack of procedures for allocating resources between the two sub-programmes (see section 3).

Both evaluations emphasised the need to ensure that all research was in accordance with international ethical standards. It was recommended that agricultural projects should be screened with respect to their contribution to sustainable agricultural production and their effect on the ecological stability of a particular habitat.

7. CONCLUSION

Since 1983 four successive Framework Programmes for Research and Technological Development have successfully funded a large number of tropical forestry research projects, bringing together EU and developing country institutions in mutually beneficial partnerships.

Research funded through DG XII differs from that funded by the development budget lines in DG IB and DG VIII in that it is meant to be fundamental rather than applied. While there is some collaboration among the DGs on project selection, the different project cycle methodologies mean that there is relatively little scope for linking DG XII research projects to development or research projects funded by other DGs. In part this is also because of the small number of staff responsible for the Framework Programme. The resulting weak management capacity is particularly problematic in that it hampers effective project monitoring and evaluation.

Between the first STD1 Framework Programme and the current INCO-DC Programme, projects have become larger both in total funding volume and in the number of research collaborators. After an initial trend towards increasing the number of European participants, a balance now seems to have been reached with approximately equal numbers of Southern and EU partners. Projects as a whole have also become more multi-disciplinary in nature, reflecting the recommendations of international fora such as the UNCED Conference in 1992.

Within the forestry sector, projects have seen a complete shift away from the early focus on individual species and woody biomass production to a concern with forest ecosystems and the role of trees in multi-faceted production systems. The Programme could be much improved, however, through the development of an EC strategy on tropical forestry research to help focus the limited funds more effectively. Planning forestry research would also be facilitated by the introduction of defined procedures for allocating budgets between the various thematic sectors of the Framework Programme, with the possibility of ring-fencing an amount for tropical forestry.

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ACRONYMS

DG	Directorate-General
EC	European Community
ETFRN	European Tropical Forest Research Network
EU	European Union
INCO-DC	Co-operation with Third Countries and International Organisations – Scientific and Technological Co-operation with Developing Countries (second Activity of the 4th Framework Programme)
NGO	Non-Governmental Organisation
RTD	Research and Technological Development
STD	Science and Technology for Development
UNCED	United Nations Conference on Environment and Development

ACKNOWLEDGEMENTS

This chapter benefited from discussion with a number of people including the following: Mme. Marianne Braun, Mr. Timothy Hall, Mr. Joachim Kreysa, Mme. Catherine Lammens and Mr. Tilak Viegas (all DG XII). Thanks are also due to Ms Clare Hamilton for editorial assistance.

Note on currency equivalent: on 1 September, 1997, US$ 1 was equivalent to ECU 1.09.