Federal Republic of Germany

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Contents

GER

1. FOREST HISTORY

1.1 Forest cover, type and tenure

Germany has 10,844,000 ha or 29.1% of its land area under forest (BML, 1994). Without human presence Germany would be under almost 100% forest cover, with beech being the dominant species. 5,000 years ago, human impact became the major factor determining vegetation cover and composition. Repeated clearing by fire in the Bronze Age (3,500 years ago) led to the development of the first heath landscapes on the sandy, nutrient-poor soils of northern Germany. During the Middle Ages increasing colonisation led to a rapid decline in forest cover. Forests were converted to agricultural land, used as a source of fuelwood and construction timber, and as pasture for livestock. Forests became less dense as nutrients were lost through removal of litter to fertilise fields and regeneration was severely affected by livestock browsing. By the thirteenth century, forest cover had declined to about 30% (Enquete-Kommission, 1994). Due to timber and fuel shortages, medieval cities introduced simple forms of land use control and began to carry out artificial regeneration, mostly with Scots Pine.

In the following centuries forest cover fluctuated, experiencing temporary increases when wars and disease reduced the human population. By the early eighteenth century, however, the forest area had declined to its lowest level as the population grew, agriculture expanded, and industrialisation dramatically increased the need for timber and wood products for the domestic timber trade, for glassworks, saltworks and charcoal burners, and for export. Many mountain slopes were deforested for their large timber which was rafted downstream to supply Holland's growing shipbuilding needs (Klose, 1985). The species composition of the remaining forest also changed as an expansion of coppice management to supply the charcoal industry led to a reduction in beech and conifers, which regenerate poorly from stumps.

By the mid eighteenth century wood shortages threatened to restrict further industrial development and gradually led to a rethinking of forest use. This ushered in a period of reforestation and the widespread introduction of sustained yield management systems. In the few remaining forests, beech was re-established as the dominant species. In clear-cut areas, however, reafforestation was possible only with less demanding species such as spruce, pine and larch, and in this way a large proportion of cleared land was rapidly reafforested (Enquete-Kommission, 1994). Today, these large coniferous stands are characteristic of the German forest landscape although, particularly in public forests, attempts are being made to convert them into site-specific multi-aged, structurally diverse, mixed forests. Recent years have seen a trend towards increasing forest cover as more and more agricultural land has been taken out of production in rural areas. Near cities, however, pressures for deforestation continue and a scheme of compulsory compensatory afforestation is in force.

There are several types of forest tenure in Germany. In 1987, 30% of forest in the former Federal Republic of Germany[1] was in the hands of the state (predominantly at the *Länder* level), 24% was communal forest and 46% was in private hands (BML, 1994). Well over half of this private forest is in the hands of 430,000 small owners with wooded areas of below 50 ha each (Grayson, 1993). In the former German Democratic Republic, much of the state forest was private forest which was expropriated after the Second World War and is currently being redistributed to former owners. The final distribution of forest ownership is likely to be similar to that of 1945, i.e. 43% state forest, 8% communal forest, and 49% private forest (BML, 1994).

1.2 Evolution of forest use and forestry

For many centuries, the objectives of forest management were determined by the forest's importance as a reserve of agricultural land and a source of hunted and gathered products vital for subsistence. Only with the evolution from an agricultural to an industrial state did the growing need for wood and timber production give forestry an independent *raison d'être*. The introduction of coppice, coppice-with-standards and high forest management was the first step in a process leading to the development of sustained yield management. Instead of uncontrolled exploitation of individual trees, areas were divided into felling coupes to achieve a more controlled use of timber biomass. Not surprisingly, these developments began in the forests around saltworks and mines where the need for sustained timber supplies was greatest (Hasel, 1985).

Since the beginning of the present century, and particularly since the end of the Second World War, the sustained yield concept has gradually been replaced by a principle of sustainability which comprises not only the sustainable production of timber but also the objective of maintaining the many other forest products and services for the benefit of current and future generations (BML, 1994). A more natural style of management aims to achieve sustainability of all forest functions (use, protection and recreational). In recent years, however, growing public awareness of conservation issues has led to debate about whether the concept of multiple-use forestry – in which all forest functions are promoted simultaneously – goes far enough. Rather than simply focusing on the use-function of forests, there is now a growing demand for 'process-protection', which ensures the protection of all natural processes occurring in forest ecosystems.

1.3 Development of forest science

In Germany the development of a specialist forest science was closely linked to the increasing importance of timber as a raw material during the eighteenth century. Forest science provided the basic knowledge necessary to ensure sustainable management, particularly through planning and inventory methods, but also through silvicultural techniques for establishing, maintaining and harvesting stands.

Men like H.C. von Carlowitz, G.L. Hartig, H. Cotta, C. Heyer and W. Pfeil played a key role in establishing Germany's international reputation as the birthplace of

1. Germany is a federal nation consisting of 16 separate states or *Länder*, each with its own parliament and a high level of decentralised power. Reunification of the Federal Republic and the German Democratic Republic took place in 1989.

forest science and sustainable forestry. Their pioneering work was facilitated by many non-forestry developments, such as the discovery of artificial fertilisers and potash mining, improved breeding and international trading of cereals and wool, and the development of coalmining. All these were important prerequisites for the development of productive forests in that they relieved forests of the pressure to feed the population and provide sufficient fuelwood (Zundel, 1990).

The first academic forestry institutions were established at the turn of the nineteenth century, generally evolving from technical forestry schools like those in Göttingen and Tharandt near Dresden. The training provided by these institutions had a high reputation and its students were employed not only in the German forest service, but frequently also in those of other countries (see Section 2).

1.4 Forest law and administration

Amending and harmonising a multitude of long-standing state laws and locally-specific rules and regulations, a Federal Forestry Act was passed in 1975. This provided a framework within which details were defined by *Länder*-level laws (BML, 1994; Grayson, 1993). The five main objectives of the 1975 Act were to:

- conserve forests for their multiple functions;
- ensure proper management of forests to sustain their direct and indirect values;
- expand the forest area;
- advance the forestry sector;
- strike a balance between the interests of society and the vested interests of forest owners.

The 1976 Federal Act on Nature Conservation made the protection, care and development of nature and the landscape obligatory; it therefore has significant implications for the forest sector. While the two laws complement each other in their aim of sustaining biological diversity (BML, 1994), they also exemplify the growing conflict between an emphasis on the production function of forests, on the one hand, and on their conservation function, on the other.

At the national level, forests are the responsibility of the Federal Ministry of Food, Agriculture and Forestry (BML, *Bundesministerium für Ernährung, Landwirtschaft und Forsten*), with the exception of federal forest lands which, for historic reasons, are under the Ministry of Finance. The BML is responsible for the relevant legislation, collaboration with the *Länder* in the promotion of the forest sector, the coordination of forestry issues of national significance (including national inventories, market information), international forestry affairs, the planning and coordination of national-level research, and publicity work.

At the *Land* level, two main types of forestry administration exist. Much of southern Germany has unitary forest authorities which are responsible for forests under all types of ownership. In some of the northern *Länder*, however, the high proportion of private forest land has resulted in the creation of a *Land* Forest Administration, responsible for publicly owned forest, and a separate Forest Service Administration, which plays an advisory and regulatory enforcement role for the private forest sector (BML, 1994).

2. HISTORY OF INVOLVEMENT IN TROPICAL FORESTRY

In the nineteenth century the quality of German forestry training was widely recognised in Europe, as was Germany's role in the development of sustained yield management systems. German foresters were employed not only in German but also in Dutch and British colonies where they played an important role in the development of tropical forest management systems.

2.1 Activities in foreign colonies

Two focal points of German activity in foreign colonies were to be found in Asia. In 1847 the colonial administration of **the Dutch East Indies** (now **Indonesia**) hired two German foresters, Mollier and Nemnich, to establish sustained yield forestry in the Javan teak forests, which were threatened by clearing for population settlement and for the production of timber for shipbuilding. In 1849–50 the two foresters replaced the hitherto unregulated removal of superior individual trees by a system of regular clearfelling of coupes with the retention of protective and seed trees (Mammen, 1964). In 1855 another German, von Rössler, drew up proposals for the reorganisation of the forestry sector in Java and helped to draft a forest law and new silvicultural recommendations, which constituted the beginning of planned forestry in Java (Mammen, 1964). In the years that followed, many German foresters joined the Dutch government service, where their main area of responsibility was the development of inventory and planning methods for ensuring sustained timber production. This tradition came to an end in 1934 when, as a result of the international economic crisis, all foreigners were dismissed from the Dutch forest service.

The second main area of German influence was **British India.** In 1864 the Viceroy appointed a German botanist, Dr Dietrich Brandis, as the first Inspector-General of Forests. Brandis, who is today remembered as one of the fathers of tropical forestry (BML, 1990), had previously been Superintendent of Forests in Burma where his main task was the safeguarding of teak production (Bruenig, 1996). He wrote the first manual for teak in Burma, introducing new inventory procedures to determine the proportion of teak in the forests. He also developed the *taungya* system of reafforestation which combined selection silviculture with the traditional slash-and-burn shifting agriculture practised by the local population. This procedure allowed for extensive establishment of teak forests in the mountain regions and is still in use today, often considered to be the beginning of modern agroforestry (BML, 1990).

In 1867, at Brandis' request, two more German forest administrators, Dr W. Schlich and B. Ribbentrop, entered the British Indian service. Schlich established a central forest management office ('Imperial Working Plans Branch') and, in 1875, founded the specialist forestry journal *The Indian Forester*. His five volume handbook *Manual of Forestry* represents a classic work of forestry education (Mammen, 1964).[2] Ribbentrop introduced planned forestry in the Punjab, set up the

2. On his return from India, Schlich set up the first forestry school in England at Cooper's Hill in 1885, from where it moved to Oxford in 1905.

administration in several other provinces, and had a decisive influence on the establishment of experimental forestry in India. The first tropical forestry training institution, founded in 1878 in Dehra Dun by Brandis, was expanded by Ribbentrop into a forestry research institute and soon developed into an internationally recognised research and training centre. Towards the end of his period in India, Ribbentrop wrote the first basic forest history text for British India, a work still cited today (Mammen, 1964).

2.2 Colonial forest history

The period of German colonial forest history extended only from 1884 to the beginning of the First World War. In **German East Africa,** the first forest officers, were active from 1892. Their main concerns were to establish regulated forestry, undertake afforestation and develop management systems for mangrove forests. In **Togo**, Metzger established a forestry administration and began systematic research into forestry practice in 1906. He designated protection forests and was known for his savanna afforestation projects, particularly with teak.

With its extensive area of primary forest, **Cameroon** was considered to be the most significant colony for forestry in Africa. Exploration of these primary forests, in particular for their utilisation potential and possible conversion into commercial forests, was the main activity of Wiech, the director of the first imperial senior forestry division in Cameroon, who also attempted to introduce profitable operation to the vast wild oil palm stands in the north of the country (Wilhelmi, 1961, cited in Lemhöfer and Rozsnyay, 1985).

Links between the forestry experiences in Asia, the South Pacific, the German African colonies and Germany itself were maintained above all via the German academy of forestry in Hann. Münden, whose professors Büsgen and Jentsch organised study trips, from 1906 onward, to Indonesia, Cameroon and Togo. In the process, they drew up proposals for local forest management and established several forest reserves (Lamprecht, 1986).

2.3 Objectives and impact of colonial forestry

One of the main objectives of colonial forestry, as of the colonial economy in general, was the production of raw materials for German industry. Forestry measures were devoted primarily to the conservation and establishment of forests with the highest possible proportion of exportable timber. In 1912, Gieseler, the Prussian chief forester, wrote that the aims of forest policies in Cameroon should be to protect existing timber stocks, to establish teak and other valuable timber species, and to exercise control over the use of wild rubber and other forest products. The primary aim of forest conservation was therefore not the preservation of ecological diversity but economic usefulness.

German foresters brought to the tropics their tradition of forest management for sustained timber yields. Certain silvicultural concepts were adapted to tropical conditions, as in the case of Brandis' *taungya* system. Many, however, were applied as in Germany. Chief of these was the widespread introduction of clearfelling and of the shelterwood system. Both systems were considered important ways of 'bringing under control the ungovernable species richness', and halting the deterioration of the stock brought about by existing practices of creaming only the best trees in each stand (Seibt, 1910). Their results were, however, disappointing and they proved unsuitable for the humid tropical forests.

With the loss of its colonies after the First World War, direct German influence on tropical forestry came to an end. Only after the Second World War, with the reconstruction of the German economy and its growing international influence did its forestry experience again play a more important role within the framework of incipient development co-operation. However, unlike the longer-term colonial powers, Germany's short-lived colonial activities had little obvious influence on the development co-operation which began in the 1950s.

3. STRUCTURE OF AID DELIVERY

In keeping with the country's federal structure, German development co-operation activities are implemented not only by the Federal Government but also by the *Länder* and the municipalities. In the tropical forestry sector, however, federal development co-operation is of particular importance. It consists of approximately two-thirds bilateral and one-third multilateral aid. The Federal Ministry for Economic Co-operation and Development (BMZ, *Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung*) is the key Federal institution responsible for bilateral aid, which is the focus of this chapter. For historical reasons, Germany has an unusual system in which three types of bilateral co-operation – financial, technical and personnel – are institutionally separated, each being implemented by one of a number of specialised development organisations[3] discussed in greater detail below (Ashoff, 1996).

3.1 The Federal Ministry for Economic Co-operation and Development (BMZ)

The implementation of early German development co-operation was complicated by the involvement of several ministries (Foreign Affairs, Economic Affairs, Food and Agriculture) with sometimes overlapping areas of responsibility, and by the lack of German experts with experience of conditions in developing countries (White, 1965, cited in Hoffmann, 1980). In 1961 the growing volume of federal activities and the organisational model provided by other donor countries led to the establishment of the Federal Ministry for Economic Co-operation and Development (BMZ).

The BMZ is responsible for managing the federal development co-operation budget, which is fixed by Parliament on an annual basis. It does not directly implement any development co-operation activities or projects. Rather it is responsible for formulating federal development policies; elaborating appropriate guidelines; coordinating all bilateral aid programmes; and

3. The following will deal only with those organisations working in the forestry field.

coordinating activities with other donors and multilateral organisations (see Figure 1). The BMZ's budget accounts for about 70% of Germany's official development assistance (oda) (Ashoff, 1996). The remainder is channelled through other Federal ministries, particularly the Foreign Ministry; the Ministry of Education, Science, Research and Technology; and the Ministry of Economic Affairs (Wiemann, 1996).

The BMZ has nearly 600 staff in Bonn and Berlin. In addition to country desks, it has a Division (224, Environment, Resource Conservation and Forestry) which is responsible for coordinating forestry aid. The BMZ has no field offices of its own because the Foreign Ministry does not accept a parallel structure to embassies. Instead, the BMZ posts counsellors for development co-operation to German embassies in those countries (27 in 1993) which are major recipients of German oda (Wiemann, 1996).

3.2 Bilateral financial co-operation

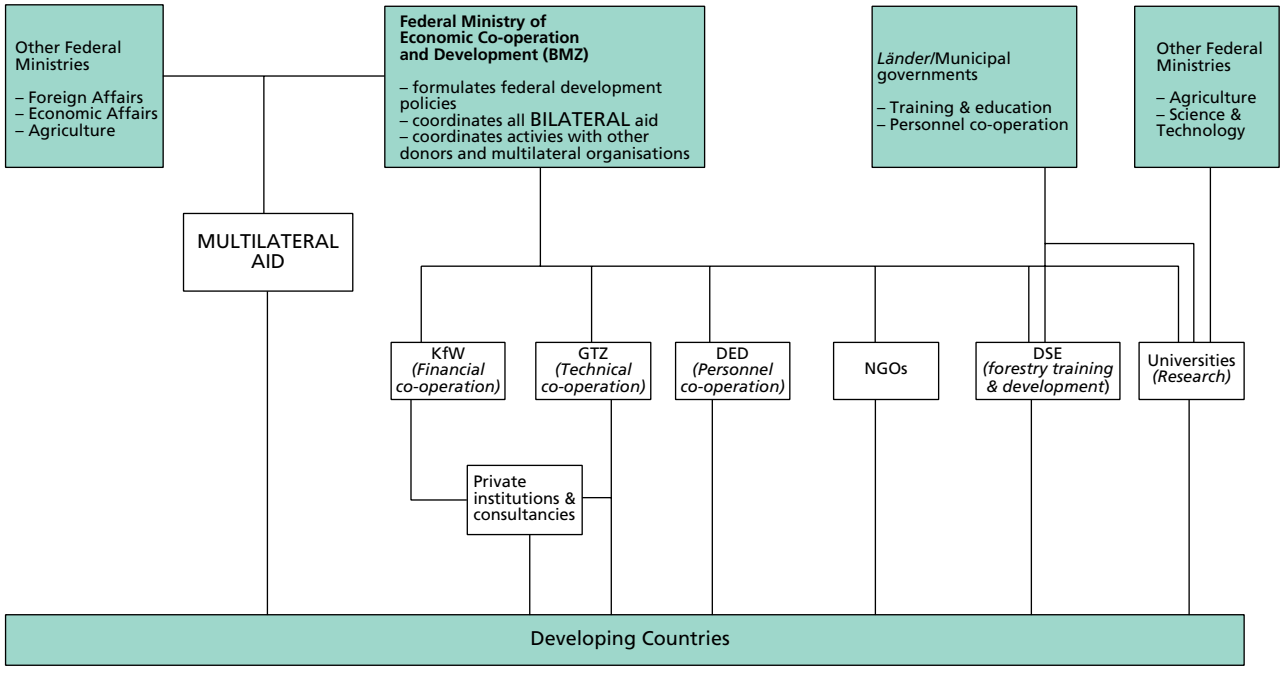
In budgetary terms, financial co-operation, also called capital assistance, is the most important category of development co-operation. Its aim is to promote new investments in developing countries, to increase their overall production potential and improve their social and physical infrastructure. Typically, financial co-operation finances goods and capital investments, such as the construction of roads or other infrastructure, as well as assistance in preparing and monitoring projects. More recently it has become an important instrument of programme aid. In such cases, the focus is on a set of integrated measures which concentrate on a specific sector, region or population group and are implemented as a coordinated package. Typical examples include integrated regional development, rural development programmes, credit programmes for small farmers and programmes to establish and equip basic health care services (Press and Information Office, 1995).

Financial co-operation differs from technical and personnel co-operation (see sections 3.3 and 3.4) in that partner countries receive a grant or loan for a particular project, which they are solely responsible for implementing. Where necessary, a partner government may choose to seek technical assistance to help in implementation of the project. In effect, financial co-operation is complemented by technical and personnel co-operation which focus on providing partner countries with the human expertise needed to make effective use of financial aid. Although the three types of co-operation are not formally linked, there is a trend towards increasing collaboration (see Section 9).

Financial co-operation is given in the form of grants to countries classified as least developed countries. Other developing countries receive 30–40 year loans at favourable interest rates (0.75–2.0%) (Press and Information Office, 1995). Countries which would normally qualify only for loans, may also receive grants to promote activities in three critical areas: self-help to combat poverty; social infrastructure; and environmental protection measures. As part of the latter, all financial co-operation in the field of forestry is given in the form of grants.

Financial co-operation is administered by the German Development Bank (KfW, *Kreditanstalt für Wiederaufbau)* on behalf of the Federal Government. Established as a public corporation in 1948, the KfW is a bank owned 80% by the Federal Government and 20% by the *Länder* Governments. Its major activity is the promotion of the German economy by granting investment loans and export credits and by assuming guarantees. In the field of co-operation with developing countries, the KfW has 380 staff, 240 of whom are technical specialists including 4 forestry experts. Until recently, the KfW operated exclusively from its head

Figure 1 **Principal actors and pathways in the German tropical forestry aid system**



(Source: Adapted from DAC, 1995)

offices in Frankfurt, but field offices with limited technical support functions are now being tried out in some of the major recipient countries (Wiemann, 1996). First experiences in Cairo and New Delhi are encouraging and may lead to the establishment of offices in other countries (Duve, KfW, pers. comm., 1997).

With the exception of a few older projects, financial co-operation funds have only been used for forestry projects since 1988. Before then, technical co-operation (see Section 3.3) was considered to be the most appropriate way of resolving forestry and tropical forest conservation problems. Forestry projects by their nature usually require more than straightforward capital investments. Whenever possible financial co-operation funds are therefore integrated into national sector strategies (e.g. Tropical Forest Action Plans) or tied to projects and programmes which have already been prepared with support from the GTZ (see Section 3.3), the World Bank or the regional development banks.

Three basic types of forestry financial co-operation can be distinguished:

- projects concerned with sustainable economic use of forests, e.g. large-scale timber afforestation, rehabilitation and enrichment planting of natural forests, support for partner institutions, forest inventories, road construction, plantations and purchase of materials;
- conservation activities, e.g. support for existing or newly designated conservation areas through funding of road construction, boundary marking and purchase of materials;
- establishment of Protected Forest areas, e.g. buffer zone development activities including agroforestry and soil conservation components.

3.3 Bilateral technical co-operation

Technical co-operation aims to increase the productivity of both people and organisations in developing countries by transferring technical, economic and organisational knowledge and skills. It is always carried out in collaboration with government or non-government organisations in the partner countries, with the aim of rapidly enabling them to carry out their responsibilities without external help (Press and Information Office, 1995).

Established in 1974 and owned by the Federal Government, the German Agency for Technical Co-operation (GTZ, *Deutsche Gesellschaft für Technische Zusammenarbeit*) is mandated to plan, implement and monitor technical co-operation measures on behalf of the BMZ. In line with its status as a private limited company, the GTZ also undertakes commissions from other organisations such as partner countries, the European Commission, international financial institutions and other donors (GTZ, no date a).

In addition to a staff of over 1,300 at its head offices near Frankfurt, the GTZ employs some 1,500 field staff and 5,000 locally contracted personnel (Wiemann, 1996). Technical and administrative support for projects is provided by GTZ Service Offices in over 50 countries (Wiemann, 1996). Recently the GTZ has changed its organisational structure, giving more responsibility to its overseas employees. This is intended to improve efficiency by encouraging the resolution of problems at their point of origin, and by promoting regional networking of technical experts. As with the KfW, the GTZ does not directly implement projects; its staff act as consultants in projects or programmes for which institutions in the partner country are responsible.

Within the GTZ, Division 4240 is responsible for Forest Resources Management and Nature Conservation. Separate Concept Papers have been produced for each of these two 'Activity Areas'. The Division has about 10 professional staff (GTZ, no date b) who act as an in-house consulting agency, supplying technical advice to the country desks which are responsible for individual projects, providing technical backstopping for ongoing projects, and carrying out conceptual planning within the field of forestry and conservation. (GTZ, 1993). Approximately 95 experts are currently assigned to 80 Forest Resources Management projects and an additional 20 experts are working in about a dozen Nature Conservation projects (GTZ, no date b). Activities aim to support the political, institutional, socio-economic and technical processes necessary to achieve sustainable management of forest resources.

3.4 Bilateral personnel co-operation

The development of human resources and expert advice plays a particularly important role in German bilateral co-operation. In addition to the many experts recruited by the GTZ and KfW, over 60 foresters are posted in development projects by the German Development Service[4] (DED, *Deutscher Entwicklungsdienst*), a non-profit organisation entirely funded by the BMZ. Founded in 1963, the DED was modelled on the American Peace Corps. It is responsible for the selection, preparation and supervision of development workers during and after their 2–6 year posting in projects implemented by partner country institutions. It also recruits German volunteers for the European Volunteer Programme and the United Nations Volunteers.

The main provider of tropical forestry training and development is the BMZ-funded German Foundation for International Development (DSE, *Deutsche Stiftung für Internationale Entwicklung*). The DSE runs courses (both in Germany and abroad) for technical and managerial personnel from developing countries as well as preparing German experts for their work overseas. It also maintains the largest documentation and information centre on development issues in Germany.

3.5 Multilateral co-operation

About one-third of German oda takes the form of multilateral assistance. Its management is shared between the BMZ (international financial institutions and some UN organisations), the Federal Ministry of Foreign Affairs (UN) and some other Federal Ministries (e.g. BML for FAO; Federal Ministry for Economics for the International Tropical Timber Organisation). Four Federal Ministries (Economics, Finance, Foreign Affairs and the BMZ) are jointly responsible for European programmes (DAC, 1995), which receive 20% of total German oda (Michel, 1997). In addition to its statutory

4. Formerly known as the German Volunteer Service.

membership contributions to the EU and UN organisations, Germany also provides funds for a number of international NGOs such as the World Conservation Union (IUCN) and the intergovernmental organisation, ITTO. These may be of a general nature or designated as funds-in-trust linked to specific projects.

Germany considers that the complexity of tropical forestry issues requires a development co-operation approach that goes beyond the level of bilateral projects. Individual projects can be more effective if integrated into programmes, and international activities need to be coordinated within an overall framework. In the view of the Federal Government, the World Bank – as the single most important financial institution active in the field of development co-operation – must play a key role in designing, funding and coordinating international measures and programmes to conserve the tropical forests and develop forestry in the tropics (BML, 1995). Thus in 1991, a German-French initiative resulted in the World Bank (together with UNEP and UNDP) setting up the Global Environmental Facility (GEF) to support measures which contribute to global environmental protection, including tropical forest conservation. With a contribution of US$ 240 m. (12% of the total), Germany is the third largest contributor to the GEF after the US and Japan (BML, 1995). It was also Germany's Chancellor Kohl who, in 1990, initiated the process which led to the setting up of the World Bank-coordinated 'Pilot Programme to Conserve the Brazilian Rainforest' (see Chapter on DG IB). With multilateral contributions of DM 253 m., and additional bilateral contributions of DM 50 m., Germany funds 60% of the total programme (BML, 1995).

Germany has also supported the WB-coordinated National Environmental Action Plans, playing a leading role in those of Madagascar and Benin. Similarly, it participated in the development of Tropical Forest Action Plans in numerous countries, and supported the FAO coordination office with DM 4.5 m. funds in trust over a period of three years. As the TFAP continued to be heavily criticised, Germany pushed hard for the creation of an independent TFAP Consultative Group (BML, 1993), a wish that was fulfilled to some extent by the establishment of the Forestry Advisers Group a short time later. This informal committee of forestry experts from the development administrations of bilateral donors and multilateral organisations discusses the conceptual principles underlying development co-operation in the field of tropical forestry. Since 1993, the German representative has chaired the group and has consequently provided a much needed impetus for the further development of programmatic approaches to forest conservation (BML, 1995).

Since 1989 the BMZ has funded a GTZ project on 'Support to International Programmes in Tropical Forestry' (TWRP, *Tropenwaldrelevante Programme*) which participates in all international initiatives and global fora on tropical forests in order to feed national-level experiences into the international dialogue. TWRP also supports tropical countries in their efforts to implement relevant international agreements within the framework of their national forest programmes and in line with their development priorities (BMZ, 1997).

3.6 Project implementation by NGOs and consultancies

In the past an average of just over 6% of the total BMZ budget has been devoted to collaboration with NGOs (DAC, 1995). As a rule, government subsidies do not exceed 75% of the estimated funding requirements of such projects, except in the case of pilot projects, which the Federal Government may fund in their entirety (Press and Information Office, 1995). Currently about 150 NGOs are supported by the BMZ, with five political foundations[5] receiving just under half the funds available for co-financing, and the two main Christian church foundations[6] receiving a further 41%. The NGOs themselves raise the equivalent of a further 11–12% of official development assistance from their own funds and donations. In the tropical forestry field, however, NGOs play a minor role.

Private consulting companies, on the other hand, are beginning to play an important role in the implementation of German development co-operation, including forestry activities. While the KfW with its small number of forestry specialists has always relied on consultants to assist in the preparation and supervision of projects, the GTZ is now also buying more and more consultancy services 'on the market' (rather than relying on in-house expertise). This trend is in part due to the government's aim of enhancing the efficiency of the public services sector by subjecting it to the performance criteria of the private sector. The GTZ is therefore required to put all development projects out to tender and can only implement those for which its own involvement is clearly advantageous. It is hoped that, by involving a wider range of development experts, the innovatory potential of consultancy companies will help to develop the content of development co-operation further.

3.7 *Länder* and municipal activities

In keeping with Germany's federal structure, individual *Länder* provide about 9% of all oda (BMZ, 1996a), although this is concentrated primarily on the education sector. Coordination at the Federal and *Länder* levels is assured by the BMZ's Federal-*Länder* Committee on Development Co-operation. Within the forestry field, the *Länder* contribution lies mainly in the funding of several advanced-level training establishments (see Section 6), and in seconding state foresters to overseas development projects. Thus the *Länder* currently provide 40% of the forestry experts employed in personnel co-operation. The GTZ and other implementing organisations are, however, moving towards relying less on staff from the German forest service, preferring to hire more tropical forestry specialists for their projects. The proportion of foresters seconded by the

5. The five political foundations are: the Friedrich-Ebert-Stiftung, the Konrad-Adenauer-Stiftung, the Friedrich-Naumann-Stiftung, the Hans-Seidel-Stiftung and the Stiftungsverband Regenbogen. Though affiliated to particular political parties, the foundations are autonomous in their activities, focusing on political education and support for all types of groups in developing countries, such as trade unions, women's groups and farmers' cooperatives.

6. These are the Catholic Agency for Development, and the Protestant Agency for Development.

Länder will consequently tend to fall in the long term.

German municipalities also engage in development activities in the context of partnerships and local government co-operation (Ashoff, 1996), but play virtually no role in the sphere of forestry. Nevertheless, they do exercise a substantial influence on public policy relating to tropical forests. Thus, the participation of many municipalities in the tropical timber boycott of the 1980s was an important ingredient in the public pressure which led the Federal Government to reconsider its forest development policies and announce its DM 300 m. tropical forest programme in 1988 (see Section 4).

4. TROPICAL FORESTRY DEVELOPMENT POLICIES

4.1 Development co-operation in general

4.1.1 Guiding principles

Basic guidelines for German development policy were adopted by the Federal Government in 1986. They define development co-operation as one of the key components of Germany's overall relationship with developing countries, together with foreign and economic policies. Within the guidelines, the main objective of Germany's development policy is stated to be 'improving the economic and social situation of people in developing countries and developing their productive abilities' (Press and Information Office, 1995). The guidelines stress that the aid relationship must be based on mutual respect of the sovereign political interests of donors and recipients (DAC, 1995).

4.1.2 Volume of aid

Germany is now one of the world's largest donors, providing aid to the tune of DM 14.9 billion in 1994 (BMZ, 1996a), and ranking fourth after Japan, the US and France (Ashoff, 1996). The 1986 guidelines stipulate that, in line with UN targets, the total flow of public and private money to developing countries should be at least 1% of GNP, and that German development aid should aim to reach 0.7% of GNP. However, the combination of a stagnating aid budget and a growing domestic economy have meant that Germany's oda/GNP ratio has been falling in recent years (Figure 2), dropping to 0.34% in 1994 and 0.31% in 1995 (Michel, 1997).

Domestic interests play an important role in German aid. In spite of an earlier commitment to untied aid, there has been a gradual shift towards more tying of aid in the 1980s and 1990s, with 52.1% of total oda tied to German supplies in 1993 (Wiemann, 1996).

4.1.3 Regional focus

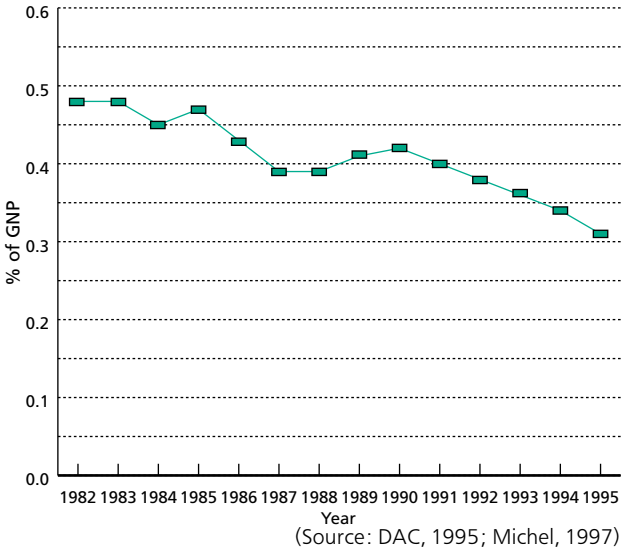
Bilateral aid is concentrated particularly on sub-Saharan Africa and Asia and Oceania, as shown in Table 1. North Africa and the Middle East also receive a high proportion, a large part of it earmarked for Israel. Overall priority is given to the least developed countries, which may receive short-term emergency aid in addition to longer-term structural assistance.

In 1991 the BMZ took the innovative step of introducing five explicit criteria for the allocation of German bilateral assistance: (i) observation of human rights; (ii) popular participation in political processes; (iii) stability and due process of law; (iv) market-oriented economy; and (v) development-oriented domestic policies (Press and Information Office, 1995). The application of these criteria has contributed to shifts in oda allocations, with increases to countries like Bangladesh, Benin, Chile, Nepal and Zambia in 1992/3 and complete cessation of aid to Haiti, Malawi, Togo and Zaire (DAC, 1995).

In 1992/3 two-thirds of German bilateral oda was concentrated on only 19 countries plus the successor States of the former Yugoslavia. In spite of this degree of concentration, German technical co-operation projects were nevertheless being appraised, prepared or implemented in 150 countries in 1992, and financial co-operation projects in 105 countries (Ashoff, 1996). This wide geographical distribution dates back to the Federal Republic's earlier attempts to 'buy friends' by means of foreign aid after the Second World War, especially at the height of its competition with the German Democratic Republic in the 1960s and 1970s (Wiemann, 1996).

There is currently a recognised need to concentrate resources further and a system of Country Concepts

Figure 2: Development aid disbursements (1982–93) as % of GNP



(Source: DAC, 1995; Michel, 1997)

Table 1 Distribution of bilateral oda by region (%)

	1982/83	1987/88	1992	1993
Sub-Saharan Africa	33.4	34.2	26.9	33.5
North Africa and Middle East	17.9	17.4	24.7	8.8
Asia and Oceania	31.7	22.9	22.1	28.2
America	13.5	16.9	11.3	14.3
Europe	3.5	8.6	15.1	15.2
(share of Least Developed Countries)	33.2	32.2	24.3	29.0

(Source: DAC, 1995)

was introduced in 1992 as one means of achieving this. Country Concepts are developed by the BMZ as management instruments for aid relations with selected countries in a medium-term perspective, their main objective being to concentrate co-operation with any given country on a few priority areas. Concepts are elaborated by the BMZ together with other Ministries, implementing agencies, NGOs and country experts. Once approved by the Minister, they are binding for official financial and technical co-operation and serve as the basis for the selection of project proposals, the preparation of government negotiations, and for policy dialogue and coordination with other donors. Since 1992 about 40 Country Concepts have been produced as well as a number of regional ones (Wiemann, 1996).

4.1.4 Thematic focus

Between 1989 and 1993 the focus of German bilateral development co-operation was on social and administrative infrastructure and economic infrastructure. About 8% of bilateral aid went to the agriculture sector (including forestry) (Ashoff, 1996). Currently the BMZ has defined three key areas: poverty alleviation, environmental protection and resource conservation, and education, with the promotion of women as a supplementary crosscutting theme (BMZ, 1996a). In some thematic areas Sector Concepts have been developed by the BMZ as frameworks for the activities of implementing agencies. These include 'Rural development' (1988), 'Promotion of women in developing countries' (1988), 'Poverty alleviation through self-help initiatives' (1990), 'Tropical forests' (1992), and 'Health' (1994) (BMZ, 1996a).

4.2 Tropical forestry development co-operation

4.2.1 Development of tropical forest policies

In the 1980s information on the greenhouse effect, the ozone hole and the degradation of tropical forests, and reports such as *Global 2000*, put conservation centre-stage around the world. Environmental awareness and involvement in conservation activities were already very high among the German public. The Federal Government's first *Forest Damage* report in 1985 had initially focused attention on domestic forests. A broadly based citizens' movement demanded public information about the causes of forest damage and called for remedial action. When news of the destruction of tropical forests reached this highly sensitised public, it immediately became a contentious issue. A widespread call to boycott tropical timber was taken up by many public institutions and local authorities. At the same time the tropical forestry policy of the Federal Government was criticised, particularly for its support to private timber companies within the context of development co-operation and the strong emphasis it placed on the utility function within forestry activities (ARA/INFOE, 1989).

The Federal Government reacted by greatly increasing the proportion of forest and environment-related activities within its development co-operation. From 1987 onwards, a number of important measures were taken:

- In 1987 the Bundestag appointed an Enquete Commission to investigate the need for 'preventive measures to safeguard the earth's atmosphere'. It published an influential report (Enquete-Kommission, 1990) presenting the complexity of tropical forest issues and making recommendations for research and actions to be undertaken to conserve the tropical forests. It also obliged the Federal Government to report to Parliament every two years on its tropical forest conservation activities (Enquete-Kommission, 1994). Since May 1990, four reports (1990, 1991, 1993, 1995) have been submitted, detailing ongoing activities and indicating the progress made in implementing appropriate measures at the international, EU and national levels.
- In 1988 the Federal Government decided to increase the budget available for tropical forest conservation and forest development programmes, particularly within the context of technical co-operation. Since then around DM 300 m. of the BMZ's budget has been earmarked for tropical forest activities every year, representing a four-fold increase in the amount available before 1988. Germany thus contributes 15% of all international forestry aid, making it the most important bilateral donor in the field of tropical forest conservation (BMZ, 1996a).
- Since 1988 environmental impact assessments have been obligatory for all development activities. These should ensure that non-forestry development activities carried out in forest areas, such as road construction for example, do not result in unjustifiable damage to the forest resource.
- In 1988, financial co-operation began to be widely used to fund forestry activities. To provide an incentive for partner countries to undertake longer-term forest conservation measures, all financial co-operation in the field of tropical forestry is in the form of grants.
- Since 1989 there has been an increase in the funds made available for research related to tropical forestry (see Section 6).
- In 1992 the BMZ produced a Sector Concept on Tropical Forests (BMZ, 1992) which details the principles, guidelines and criteria underlying its tropical forest activities. This highlights the increased importance of the tropical forest sector within development co-operation in general, by obliging all non-forestry projects to include measures to reduce negative impacts on forest areas.

The public continues to exercise a major influence on policy development. In 1992, 35 environmental conservation associations founded the Environment and Development Forum (*Forum Umwelt und Entwicklung*). Funded in part by the BMZ and the Federal Ministry for the Environment, its primary aim is to coordinate information and educational work, and to challenge Government and Parliament to accelerate implementation of decisions taken at the 1992 United Nations Conference on Environment and Development (Forum U&E, 1995).

Another organisation that has traditionally made important contributions to BMZ policy development is

the German Forestry Association's Committee for International Forestry, founded in 1973. Composed of forestry experts with long-term experience overseas, the committee's concern is to highlight substantive and procedural problems of technical and financial co-operation in forestry and the timber industry, and to provide an impetus for solving them. Industry too, has been active. Thus, in 1992, an influential Tropical Forests Initiative was initiated by the timber industry, the timber and plastics trade union and timber importers to draw up, in co-operation with the tropical timber countries, a certification procedure for tropical timber and tropical timber products originating from sustainable resources.

With a view to creating a broader base of public support for its activities, the BMZ now involves many of these NGOs, as well as the major religious and political foundations, in the elaboration of its country and sector Concept Papers (BMZ, 1996a). One example of this collaboration is the position paper on 'Support of forest populations within the framework of the tropical forest programme', which recognises the particular experience and knowledge of NGOs in this field (BMZ, 1996b).

4.2.2 Development of strategies promoting tropical forestry

Forestry activities have been an important part of German development co-operation since its inception. By 1965 26 projects were under way in Latin America, Africa and Asia. Their main focus was on creating the basis for planned forestry (advisory services in the fields of forest policy, forest legislation, forest administration and the promotion of training); forest inventory as a precondition for the systematic use of natural forests; and assistance in the establishment of plantation forestry, considered to be an alternative to the low yields of natural forest management. Conservation of the environment and species and the particular needs of indigenous forest peoples were considered to be of secondary interest relative to more traditional forestry objectives (BMZ, 1992).

Most early activities consisted of individual technical co-operation projects, implemented through the forest administrations of partner countries. Such projects were often unable to do justice to the complexity of tropical forest issues and – with the exception of some training, inventory and afforestation projects – few produced successful or sustainable results (BMZ, 1992). In recent years, there has therefore been a shift in emphasis in an attempt to tackle the problem of tropical forest degradation more effectively. The current objectives and strategies for tropical forest support are outlined in the BMZ's 1992 Sector Concept on Tropical Forests. This defines the overall goal as supporting partner countries in their endeavours to protect their natural forest resources in accordance with their ecological, sociocultural and economic importance, and to utilise the forestry potential of existing forest areas and suitable afforestation sites for the benefit of the population and the economy, taking into account conservation requirements.

To achieve this overall goal, a number of objectives have been defined:

- To permanently secure indispensable protective ecological and regulatory functions of forest resources (as well as their re-establishment on degraded sites) by means of suitable forest protection measures and natural resource management activities. Important activities include establishment and management of forest reserves, national parks and the like.
- To secure the subsistence of people living in forest areas and improve the means to satisfy their basic needs, and to protect the natural living space and environment of ethnic minorities wherever necessary. Key activities include site-specific land use and agroforestry, development of peripheral areas, improvement of forest gathering systems and establishment of indigenous reserves.
- To achieve the regulated use of the raw material and energy potential of forest areas and afforestable sites to satisfy local needs and the development of handicraft enterprises, industry and export (particularly of manufactured products), taking into account environmental protection and sustainability[7] requirements. Main activities include site-specific afforestation to produce fuelwood, timber and non-timber forest products; the sustainable use and management of forest stands (inventory, silviculture, resource use and management); and the use, processing and marketing of wood and other forest products.

The BMZ recognises that an essential precondition for achieving the above objectives is the improvement of the general context within which forest conservation and management take place. It is particularly concerned about the many extra-sectoral causes of forest destruction, including national (e.g. poverty, inequitable land tenure, population pressure) and international (e.g. tropical timber trade, foreign debt) factors. Furthermore, it recognises that there are many conflicts regarding the use of tropical forests; that existing economic valuation methods frequently promote the overexploitation of forests; that responsibility for decision-making about forest lands is often divided between several ministries and organisations, all of which may be handicapped by too few personnel and low budgets; and, finally, that forest people often have only a limited capacity to participate in decision-making about their forest homes. It therefore also offers legislative, institutional and training support (BMZ, 1992).

To increase the effectiveness of bilateral tropical forestry development co-operation, the 1992 Tropical Forest Sector Concept outlines a number of guidelines developed by the BMZ in consultation with the GTZ, KfW, NGOs and others, for the implementation of activities:

- Tropical forest assistance measures should be integrated into more comprehensive development and resource protection policies.

7. The BMZ's definition of sustainability includes the requirement that the ability of the forest to function and regenerate should be conserved, and states that complete protection is necessary in the case of forest areas that are indispensable for the survival of indigenous forest populations (BMZ, 1992).

- Bilateral assistance should be linked to the implementation of international programmes such as the ITTO objectives, TFAP and the World Heritage Convention.
- In all cases, activities should adhere to the principles of forest sustainability.
- Activities should only be supported after a thorough assessment of macro- and micro-economic factors, environmental and external impacts.
- Targeted strengthening of institutional structures is needed.
- Operational projects should be linked to the relevant tropical forest policy authorities at the national level in the partner country.
- Projects should aim to encourage active participation of the local population.

4.2.3 Definition of the 'Tropical Forestry' sector

Parliament's commitment to spend DM 300 m. each year on tropical forestry aid made it necessary to monitor whether this target was actually being met. This required a decision on the definition of 'tropical forestry projects'. In 1991 the BMZ therefore drew up the following guidelines:

> The BMZ Tropical Forest Programme covers not only the humid tropics (i.e. tropical rain forest) but also the arid areas of the Third World and their vegetation types. In addition to direct forestry activities (forest conservation and development including training and research), the BMZ Tropical Forest Programme also includes projects in which the forest or tree component plays an important role in the conservation of natural resources. It therefore includes selected projects dealing with watershed management, erosion control, combatting desertification, agroforestry, bufferzone development, etc. (BMZ, 1991, in Sepp and Haase, 1993).

This broad definition provides the basis for the annual list[8] of projects contributing to the Tropical Forest Programme. The list is drawn up *post hoc*, with projects being given a 'Tropical Forest annotation' by the BMZ's country desk officers responsible for individual projects. There is thus no fixed overall budget for tropical forestry measures; rather, it is hoped that an aggregation of all relevant projects will approach the politically determined total. The list includes:

- all relevant technical and financial co-operation projects, funded by BMZ's country desks;
- a number of funds-in-trust projects (e.g. with IUCN and WWF) that are directly concerned with tropical forests;
- projects funded directly by BMZ's Division 224 from its 'Tropical Forest Conservation Fund' which amounts to DM 20–60 m. per year. Desk officers for countries in which tropical forestry is a priority may apply to Division 224 for support from this fund in addition to their country budget;
- projects funded directly by Division 224 from its 'Sectoral Fund', which is used to fund pilot approaches (e.g. the CIFOR criteria and indicators work) and supra-regional activities (such as some tropical forest research programmes).

The list excludes most of the support given to tropical forest research, projects supported by the 'Study and Expertise'[9] funds, and much of personnel co-operation. Projects funded through German NGOs and religious or political foundations are also not included, although they may constitute up to 10% of tropical forest development co-operation (Speidel, BMZ, pers. comm., 1996). The list thus does not fully represent all the support provided to the tropical forest sector by the German Government, which must therefore exceed the targeted DM 300 m. per year.

There is no complete description of all the tropical forestry activities carried out by the GTZ, KfW or DED. The GTZ's Division of Forest Resources Management and Nature Conservation has published an outline of its activities (see Section 3.3). This does not, however, give a complete picture of the technical co-operation projects included in the Tropical Forest List, as some of these

BOX 1 Tropical forestry development activities of the German Democratic Republic

No appraisal of the GDR's development aid experience has yet taken place. In part, this is because the former GDR Government did not publish any official data about what it considered to be confidential development activities. Furthermore, following the collapse of the GDR in 1989, all its political structures were adapted to the West German system, thus ending the GDR's development activities overnight.

The GDR's international forestry links (both scientific and administrative) were embedded in the country's foreign policy. Initially, links were established only with other socialist states such as Cuba, Nicaragua, Laos and Vietnam. As the GDR became more widely recognised, however, its international forestry co-operation broadened to include forestry activities through FAO and UNESCO's Man and Biosphere Programme.

The main focus was in the scientific and educational field, based on an active exchange programme. The training of foreign students resulted in close academic ties with countries like Vietnam and Laos. In 1963 a department of tropical forest and wood industries was established in Tharandt, which provided university training for 250 foresters from tropical countries in its first 20 years. The GDR's technical and financial co-operation activities were limited, partly because of its own foreign-exchange difficulties, but experts were sent out to provide direct support in the development of national forestry administrations particularly in Cuba and Vietnam.

(based on Zundel and Schwartz, 1996)

8. It should be noted that this list covers committed rather than actual expenditure on projects in any given year. Since early 1996 any committed funds that have not been turned into useful projects within 8 years are cancelzled (Speidel, BMZ, pers. comm., 1996).

9. Separate 'Study and Expertise' funds exist for technical co-operation and financial co-operation projects for each partner country. They are used to finance preparatory and feasibility studies and are managed by the country desk officers at the BMZ.

(e.g. integrated rural development or erosion control projects) may be carried out by other GTZ Divisions.

Overall it is clear that there is as yet no comprehensive and unambiguous definition of the tropical forest activities supported through German development co-operation. Instead, the boundaries between the 'Tropical Forest' sector and neighbouring sectors such as agriculture, conservation and regional development remain fluid. On the one hand, this accurately reflects the development guidelines that forestry projects should be integrated into broader activities. On the other, it means that German tropical forest policy is not very sharply defined and claims of spending DM 300 m. a year are difficult to verify.

5. THEMATIC AND REGIONAL DISTRIBUTION OF FORESTRY PROJECTS

The information available on the thematic and regional distributions of projects generally relates either to financial (KfW) or technical (GTZ) co-operation projects. A useful study (Sepp and Haase, 1993) reviewing both was carried out in 1993 by the consultancy ECO for the GTZ. This analysed nearly all the projects on the BMZ Tropical Forestry List from 1988 to 1992 according to their funding volumes, regional distribution and thematic focus.

5.1 Volume of funding

The total volume of funding committed for tropical forestry projects between 1988 and 1992 was DM 1.56 billion, reflecting the policy target of DM 300 m. a year. Of this about 40% was in the form of technical co-operation, 56% financial co-operation, and 4% funds-in-trust (Sepp and Haase, 1993). Table 2 shows the broad regional breakdown of these funds.

In recent years, financial co-operation has become increasingly important in the tropical forestry field. Thus, in 1995, the proportion of financial co-operation devoted to tropical forestry conservation and reafforestation measures was 6% (Table 3), having gradually increased from zero in 1989 (KfW, 1995a, 1996a).

The apparent discrepancy between the data for total volumes of financial co-operation funding in Tables 2 and 3 is because the data in Table 2 (based on the BMZ tropical forestry list) refer to funds earmarked for specific projects at intergovernmental negotiations, whereas the KfW statistics (Table 3) refer to actual expenditure. The difference for particular years is thus the result of the project evaluation process and the

Table 2: Funds approved in the context of the BMZ Tropical Forest Programme for technical co-operation (TC), financial co-operation (FC) and funds-in-trust (FIT) (DM m.) 1991–5

		Africa	Asia	Latin America	Europe	Supra regional	Subtotal	FIT	Total
1991	**FC**	98.4	84.0	16.0			198.4		**198.4**
	TC	51.0	21.6	34.3		21.6	128.5		**128.5**
	Sum	**149.4**	**105.6**	**50.3**		**21.6**	**326.9**	**41.0**	**367.9**
1992	**FC**	67.0	47.0	103.0			217.0		**217.0**
	TC	45.7	20.1	22.3		15.8	103.9		**103.9**
	Sum	**112.7**	**67.1**	**125.3**		**15.8**	**320.9**	**3.1**	**324.0**
1993	**FC**	49.0	42.0	15.0			106.0		**106.0**
	TC	60.3	41.4	43.5		20.5	165.7		**165.7**
	Sum	**109.3**	**83.4**	**58.5**		**20.5**	**271.7**	**3.1**	**274.8**
1994	**FC**	54.0	49.0	26.0			129.0		**129.0**
	TC	58.0	24.1	36.8	2.5	6.6	128.0		**128.0**
	Sum	**112.0**	**73.1**	**62.8**	**2.5**	**6.6**	**257.0**	**1.5**	**258.5**
1995	**FC**	17.5	27.0	80.8		10.0	135.3		**135.3**
	TC	44.5	29.0	13.7		23.0	110.2		**110.2**
	Sum	**62.0**	**56.0**	**94.5**		**33.0**	**245.5**	**8.2**	**253.7**

(Source: BML, 1995; BMZ, 1997)

Table 3: Annual financial co-operation commitments for tropical forestry projects 1991–5

	1991	1992	1993	1994	1995
DM m.	27.5	95.4	166.7	94.2	186.5
As % of total FC commitments	2	4	6	3	6

(Source: KfW, 1995a, 1996a, 1996b)

negotiation of project contracts (see Section 7), which can take a long time and during the course of which planned funding volumes for projects may change (Duve, pers. comm., 1997).

In addition to funding financial and technical co-operation projects, the BMZ also contributes to tropical forestry through debt-for-nature swaps, which are currently worth over DM 200 m. per year. Between 1993 and 1995 such agreements were concluded with 11 tropical countries (BMZ, 1997).

5.2 Regional distribution

In the period 1988–92, 44% of tropical forestry project funding went to Africa, 31% to Latin America and 22% to Asia. Figures for 1995 were fairly similar at 41%, 26% and 23% respectively (BMZ, 1997). While technical co-operation projects were fairly evenly distributed between the continents, financial co-operation projects were particularly concentrated in West Africa and South America (Sepp and Haase, 1993). Of 47 ongoing forestry financial co-operation projects in 1995, 25 were in Africa, 13 in Latin America and 9 in Asia (KfW, 1995b).

Comparing projects begun before 1988 with those begun between 1988 and 1992, Sepp and Haase (1993) found that, while the funding proportion for Africa had not changed, there had been a definite swing from Asia to Latin America. This could be accounted for primarily by the high allocation of financial co-operation funds to Brazil within the framework of the Brazilian Pilot Programme.

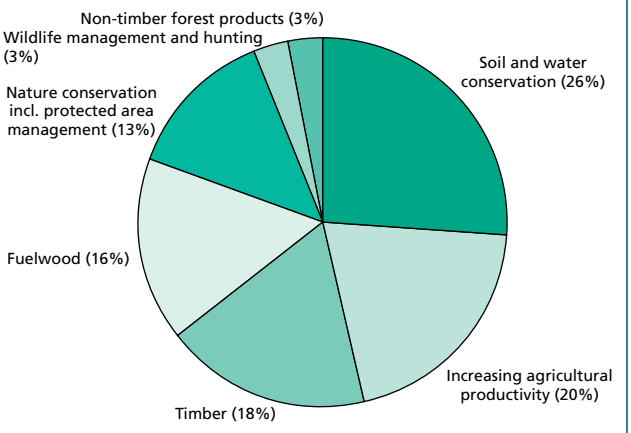
Within Africa a similar level of support is provided to each region, while Asian funding is targeted at South-east Asia, and Latin America has seen a shift in funding from Northern to Southern countries. Distribution of funds by ecological zone differs in each continent, with dry forest being the most important in Africa, rain forest in Latin America, and mountain regions in Asia (Sepp and Haase, 1993). On the whole, the BMZ's particular concern about the fate of the rain forests means that assistance is increasingly being concentrated on moist regions (BMZ, 1997).

5.3 Project distribution by thematic nature

Within the current DM 300m. p.a. Tropical Forest programme, the thematic focus is on natural forest management, afforestation, agroforestry, institutional strengthening, rural development, combatting desertification, and protection of watersheds (BML, 1995). Many projects are of an intersectoral nature.

For projects begun between 1988 and 1992, the principal stated economic objectives are shown in Figure 3 (Sepp and Haase, 1993).

Figure 3 Principal objectives of forestry projects begun between 1988 and 1992



(Source: Sepp and Haase, 1993)

The average number of aims per project was 2.4, pointing to their frequently intersectoral nature. As might be expected, soil and water conservation was particularly important in dryland projects as was fuelwood production, while nature conservation (and protected area management) occurred mainly in the rain forest zone. In many projects conservation activities were integrated into measures to ensure sustainable regional development, e.g. the combination of specific forest conservation activities with development in adjacent buffer zones.

An analysis of the thematic components of 157 projects (79 in Africa, 36 in Latin America and 32 in Asia) found that each project had an average of 6 out of a possible 29 components (identified at a workshop on the basis of the GTZ classification). Institutional strengthening was a component of 60% of projects and another 44% were involved in some kind of forest inventory, diagnosis or planning. Training and capacity-building were mentioned by 50% of projects in Asia and Latin America but only by 25% of those in Africa. Controlling erosion was a component of a third of all projects in Asia and Africa but was less important in Latin America. The reverse was true for environmental awareness-raising which was most important in Latin America, where it was a component of 35% of all projects. Over half of the Asian projects were concerned with social forestry, whereas protected area management occurred primarily in Africa (Sepp and Haase, 1993).

Although a period of five years is a short time to determine trends, Sepp and Haase (1993) were able to compare the 52 projects which had begun before 1988 with the 105 which began between 1988 and 1992. There was a clear increase in the number of projects dealing with conservation. This agrees with figures showing that the increase in financial co-operation projects in the tropical forestry field since the late 1980s is accounted for primarily by resource conservation and protected areas projects (KfW, 1996b). Another trend appears to be towards increased management of existing natural forests, with less focus on afforestation. This appears to be contradicted by the large proportion of projects concerned with 'establishment of forest resources' in 1995 (see Table 4). The heading is

misleading, however, as it predominantly includes agroforestry projects. The Table, in which project components are categorised according to BMZ criteria, demonstrates just how broadly tropical forestry is defined in Germany, with fully one fifth of projects dealing with 'rural development, combatting desertification and watershed management.'

5.4 Project size and duration

The KfW used to support relatively large projects, which were criticised for being unwieldy and too high-risk. This has changed in recent years due to the growing proportion of projects in social sectors and forestry which have smaller funding volumes than traditional infrastructure or industry projects. Thus, between 1990 and 1995 the average size of all financial co-operation projects decreased from DM 23 m. to DM 17 m. (KfW, 1996a), with a lower average of DM 15 m. in the forestry sector (KfW, 1995b). Tropical forestry technical co-operation projects tend to be somewhat smaller, averaging DM 4–6 m. (GTZ, no date b), reflecting the different nature of the two types of project.

The average duration of financial co-operation projects in general is 11 years (from preparation to the final evaluation about 5 years after the end of the investment phase) (KfW, no date). The average duration of technical co-operation projects is 7.3 years (GTZ, no date c), although forestry projects tend to last about two years longer than this and, if preparatory phases are included, can easily extend beyond ten years (Sepp and Haase, 1993). This reflects the BMZ's conviction that forestry projects require a long-term commitment.

6. RESEARCH AND TRAINING

6.1 Research

In its first report to Parliament in 1990, the Federal Government highlighted the insufficiencies of existing tropical forest research. Basic research on tropical ecology had been carried out largely independently of bilateral assistance in developing countries, while applied research was generally limited to the concrete tasks of specific projects. A major research effort was called for (BML, 1990). Increased resources have since been provided from such a multitude of public and private donors that it is impossible to gauge the total volume of tropical forest research funding in Germany.

This includes the BMZ-funded establishment of the 'Tropical Ecology Accompanying Programme' (TÖB) in the GTZ in 1992. This supra-regional project provides information relevant to tropical ecology (particularly tropical forest ecology), supplies technical experts and supports applied research by development co-operation projects and German and local institutions, universities and NGOs (GTZ, 1996). Originally slightly less applied in nature is the programme of interdisciplinary 'Research into Tropical Ecosystems' funded by the Federal Ministry of Education, Science, Research and Technology (BMBF). This includes the SHIFT programme ('Studies on Human Impact on Forests and Floodplains in the Tropics'), which received DM 35 m. between 1989 and 1996. Growing out of a 30-year history of German-Brazilian co-operation in the field of tropical ecology research, the SHIFT programme supports basic and applied collaborative research with a number of Brazilian research institutions at sites in the Amazon, the Pantanal, and the coastal forests of the Mata Atlántica (BMBF, 1995). A dozen or so research projects,

GER

Table 4: Regional and thematic distribution of approved financial and technical co-operation projects (by components[a]), 1995.

Thematic category (as defined by BMZ)	Africa	Asia	Latin America	Supra-regional	Total	(%)
1. Conservation of forestry ecosystems	28	5	13	2	48	(20%)
2. Management of natural forests	16	10	11	1	38	(15%)
3. Establishment of forest resources, incl. agroforestry	19	19	18	2	58	(24%)
4. Institutional development (training, research, policy advice)	14	12	10	10	46	(19%)
5. Rural development, incl. combatting desertification and watershed management	27	5	13	6	51	(21%)
6. Biodiversity conservation			1	1	2	(1%)
Total number of project components	**104**	**51**	**66**	**22**	**243**	**(100%)**
Number of projects	**77**	**42**	**48**	**19**	**186**	

(Source: BMZ, 1997)

[a] Some projects have more than one major thematic component and may therefore be counted under more than one thematic category.

primarily in South-east Asia and Africa, are also under way at the Institute for World Forestry, a component of the BML-funded Federal Research Institute for Forests and Forest Products (BFH, *Bundesforschungsanstalt für Forst- und Holzwirtschaft*) in Hamburg.

To improve the coordination of tropical ecology research in general, the BMZ and BML jointly established the Committee for Tropical and Subtropical Agriculture (ATSAF, *Arbeitsgemeinschaft Tropische und Subtropische Agrarforschung*) in 1990. This aims to promote agricultural, including tropical forest, research, strengthening the contribution of the Federal Republic and its research institutions in this area and raising public awareness of the main issues. Until 1996, ATSAF was also the home of the European Tropical Forest Research Network.

6.2 Education and training in tropical forestry

Within Germany three basic types of forestry education are available: a 2–3 year apprenticeship, a 3–4 year technical college diploma, or a 4–5 year degree at one of four universities – Freiburg, Göttingen, Tharandt and Munich. Many graduate foresters then have a two-year period of in-service training in one of the *Länder* forest administrations. This is followed by a Civil Service examination leading to a '*Forstassessor*' (forestry official) qualification, a necessary prerequisite for those wishing to become senior forestry civil servants or to pursue an academic career.

In keeping with its long history, German forestry training is very thorough. Until recently, however, it has focused almost exclusively on temperate and specifically German forestry. This is changing as aid agencies seek to recruit foresters with tropical training. Thus the University of Freiburg now has a tropical forestry option as part of its forestry degree and has set up a course of tropical forestry lectures for Ph.D. candidates. The University of Göttingen runs a two-year MSc on 'Integrated Tropical Agriculture and Forestry Sciences' and the University of Tharandt offers a two-year English language MSc course in 'Tropical Forestry' (DSE, 1990). Some *Länder*, such as North Rhine-Westphalia, offer overseas internships as part of their in-service training, and the GTZ itself includes a number of foresters in its two-year training programme for 'project assistants'.

The main provider of forestry training courses for personnel from developing countries is the Food and Agriculture Development Centre (ZEL, *Zentralstelle für Ernährung und Landwirtschaft*) of the DSE. This organises specialist courses and seminars both in Germany and in association with BMZ-sponsored tropical forest projects.

7. PROJECT CYCLE MANAGEMENT

7.1 Project identification and agreement

Concrete projects and programmes involving financial and technical co-operation develop during the course of an intensive exchange between the Federal Government and partner countries. The basic stages in this process are:

- As a background to intergovernmental negotiations (held every one or two years), the BMZ develops **national plans,** based largely on Country Concepts where these exist, to assist in the medium-term planning of co-operation measures with a specific country. National plans translate development policy principles into concrete priorities for development activities. Taking into account the partner country's own development efforts and the activities of other donors, specific recommendations are made for co-operation measures, including rough targets for the volume of financial and technical assistance (Press and Information Office, 1995).
- At the **intergovernmental negotiations** (preceded by many consultative meetings), partner countries make a formal application to the German Government for assistance for specific projects or programmes. In most cases these proposals have been elaborated together with German embassy development counsellors, or jointly with GTZ ('Pre-ZOPP' or ZOPP1[10]) and KfW experts. Where proposals are insufficiently documented, the Federal Government may ask the GTZ or KfW to make a preliminary report to indicate whether the project is worth pursuing. In GTZ parlance this is termed the ZOPP2 or 'Appraisal-ZOPP' stage (see Table 5). If this feasibility study is positive, funds may be provided by the BMZ for the KfW or GTZ to assist in the preparation of a more complete proposal. The negotiations produce a jointly approved provisional project list.
- The proposed projects and programmes are then submitted to an **appraisal** on the basis of terms of reference elaborated during the 'feasibility stage'. This appraisal (the 'Partner-ZOPP' or ZOPP3 in the case of the GTZ) takes into account: (i) whether the proposal is in line with the Federal Government's development guidelines, its sectoral priorities, and the partner government's development objectives; (ii) the volume of funding requested and the proposed implementation structure; (iii) the economic situation of the partner country and a needs assessment for the proposed project or programme; (iv) the technical design of the proposal including an environmental impact assessment; (v) the legal, organisational, management and financial capacity of the organisation carrying out the proposed project or programme, and its ability to continue with the activity after German support has ceased; possible consultancy and training needs; (vi) the personnel, material and financial inputs of all the partners; (vii) the economic, socio-economic and cultural impact of the proposal; and (viii) an assessment of risks and the probability of successful achievement of the proposed objectives. This confidential appraisal report is submitted to the Federal Government, together with a recommendation as to whether the proposal should be funded, to what amount and under what conditions.
- The Federal Government then decides whether to

10. See Section 7.3 for a discussion of the ZOPP (*Zielorientierte Projektplanung*) methodology.

Table 5: Individual steps in the various stages of ZOPP (objectives-oriented project planning)

	ZOPP 1 'Pre-ZOPP'	ZOPP 2 'Appraisal ZOPP'	ZOPP 3 'Partner ZOPP'	ZOPP 4 'Take-off ZOPP'	ZOPP 5 'Replanning ZOPP'
Time input depending on size of project	1 day	1–2 days	2–5 days	3–10 days	3–10 days
Participation analysis (determines interests, expectations and concerns of all people involved with project)	Limited information, specify only major groups	Information still limited, but list as comprehensive as possible, indicating gaps to be filled by appraisers	In-depth analysis	Review and supplement participation analysis, structure co-operation relationships	Review documents from ZOPP 4 and supplement, if necessary, particularly when redesigning project
Problem analysis and objectives analysis	As comprehensive as necessary but not too detailed, identify information gaps	Refer to ZOPP 1, but review gaps and indicate where more information is required	Resolve open issues, assess relevance of problems/ objectives	Review and intensify existing analyses, prepare ongoing monitoring of problem situation	Review in the light of new problems encountered or modifications planned
Discussion of alternatives	Where sufficient information available, identify and assess alternative project approaches	Depending on the directives of the client/BMZ	If overall goal and project purpose cannot be achieved, appraisal result is negative. If result is positive, examine implementation alternatives at activity level	At activity level if applicable; depends on content of implementation offer/ commission	Conduct in particular when redesigning project
Project planning matrix (PPM): summary of objectives/ activities	Overall goal, project purpose, results/outputs, no activities	Pre-formulate activities	Binding definition of overall goal, project purpose, results/outputs; formulate activities	Determine activities, plan of operations and detailed internal project work plan	Reformulate overall goal, project purpose, results/ outputs and activities
Result of ZOPP stages 1–5 is the basis for:	Preliminary offer/ formal preliminary commentary	Terms of reference for appraisers	Project implementation offer	Concretisation of ZOPP 3; PPM as basis for plan of operations	New offer and/or basis for plan of operations

(Source: GTZ, 1991)

fund the proposal and whether it should be implemented by the KfW or the GTZ, or (increasingly) whether joint implementation is more appropriate. A positive decision is followed by an **intergovernment agreement on individual projects**.

- The implementing agency (KfW or GTZ) is then responsible for signing **operational agreements** with the executing organisations in the partner country. It is also required to submit regular reports to the government, as well as a final report once the project has been completed.

There are thus three tiers of agreements for each project: (a) framework agreement between governments (covering all financial and technical co-operation projects); (b) individual project agreements between governments; (c) operational agreements between the GTZ or KfW and the executing organisation in the partner country.

7.2 Project implementation – Financial co-operation (KfW)

The investment phase of financial co-operation projects cannot proceed until all necessary agreements have been signed and any conditions regarding the disbursement of grants or loans have been met. The KfW often experiences difficulties in achieving the planned handover of its projects, usually because of the restricted capacity of national forestry departments to implement the project. Problems may occur where partner countries are unable to provide, or delay provision of, promised contributions, e.g. where political priorities or forest department staff may have changed. This then requires additional feasibility studies which may further delay implementation. Where necessary, the national executing agency may commission a consultancy firm to prepare the project in detail and supervise its execution. This is generally done on the basis of competitive

bidding limited to Germany. The contract may only be awarded with the approval of the KfW, which examines the technical, organisational and personnel qualifications of the applicants and the financial standing of the consultancy firm (KfW, 1995c).

At the end of the investment phase, the KfW carries out a 'final follow-up' analysis of the use of the funds, inspects the work that has been done and examines any discrepancies between the actual costs and execution time and the original plan. As the success of the project is measured, to a large extent, by how long its effects last, a further 'final evaluation' is carried out after the project has been operating for 3–5 years (KfW, 1995c).

7.3 Project implementation – Technical co-operation (GTZ)

The GTZ uses six main instruments in planning and implementing projects: objectives-oriented project planning (ZOPP), economic assessments, plans of operations, monitoring and evaluation, progress reports, and progress reviews. Most of these instruments are used in some way by other donors and will not be described in detail here. The ZOPP methodology, however, is so closely identified with the GTZ that it deserves further discussion.

The essence of ZOPP is that it involves teamwork, with all potential participants collaborating in planning the project, with the help of an independent facilitator. It aims to:

- formulate the basis for a project, arriving at clear-cut definitions and a common understanding of the problems which the project is intended to eliminate;
- provide a clear and realistic definition of the means for achieving the desired end, thus creating a working basis which is binding for all involved;
- create a basis for monitoring and evaluation;
- improve communication and co-operation between the project partners and the GTZ.

There are various planning steps for the purpose of project preparation (ZOPP 1–3) and implementation (ZOPP 4–5) as shown in Table 5. The main document to emerge from this process is an increasingly detailed project planning matrix or logical framework.

The ZOPP methodology has been a central management tool for GTZ projects since 1983. Experience has shown, however, that it is easy to concentrate on the planning content of ZOPP to the detriment of its role as a process for improving communication and the participation of all project stakeholders (GTZ, 1995). Furthermore, the ideal of maximum advance planning is not always appropriate in a complex and rapidly changing development environment. The GTZ therefore intends to apply the process more flexibly. Better results are expected from a minimal planning framework, limited to strategic goals and input ceilings and leaving as much as possible to a joint learning process during implementation (GTZ, 1995).

Just as the ZOPP methodology has come in for scrutiny within the GTZ, so has the project concept. The traditional concept of sector and country-specific projects continues to dominate German bilateral development co-operation. Within the GTZ, however, staff are being encouraged to test more open and more integrated forms of development assistance such as:

- programmes which involve several national and international organisations and have easily interchangeable subcomponents;
- self-help efforts supported through open funds;
- private sector initiatives promoted through highly flexible financing, consultancy and training instruments (GTZ, 1995).

8. REVIEWS AND PROJECT PROFILES

The BMZ's evaluation unit regularly examines the effectiveness of German development co-operation by means of spot-checks on selected projects (2% of all measures financed in 1990/91) (Wiemann, 1996). In 1993 50 efficiency control measures were carried out, including 40 evaluations of individual projects or programmes, 5 thematic evaluations and 5 thematic cross-section analyses. Although the findings of individual evaluations are basically confidential, Parliament and the public are kept informed via the publication of condensed cross-section analyses of all the evaluations in a series of *BMZ Aktuell* publications (Wiemann, 1996). There has been no specific forestry sector evaluation other than the review of projects carried out by Sepp and Haase in 1993 (see Section 5).

The GTZ carried out an evaluation (GTZ, no date c) of the 128 projects it completed in 1993, nearly one-third of which had specific environmental and resource conservation objectives. About four-fifths of all projects were assessed as having successfully or adequately achieved their development policy aims. To increase this proportion the report recommended a more in-depth assessment of the political, economic and institutional framework during project preparation, as well as the introduction of an 'orientation phase' to precede implementation. It also proposed a shift from training individuals to capacity-building for institutions. Finally, it advocated greater devolution of responsibility for planning and implementing projects to local GTZ offices and projects themselves in order to ensure more flexible implementation of activities.

The KfW evaluation of all financial co-operation projects which had their final evaluation in 1992/3 produced broadly similar results. Of the 153 projects and programmes, 71% were considered to be successful from the point of view of development policy. Projects in the agriculture (including forestry) and industry sectors showed an above-average rate of failure, mostly due to a difficult external environment (e.g. excessive host government intervention, questionable economic policies). The economic, social and political context of projects was found to be critical in determining their success, as was the institutional capacity of the executing organisation in the partner country. To overcome the latter problem, the report suggested that some projects might need to be preceded by a phase of institutional strengthening through the GTZ, and recommended that resources should be concentrated within key sectors in partner countries (KfW, no date).

BOX 2 Ethiopia: Shifting aid priorities

German involvement in forestry co-operation in Ethiopia demonstrates the shift from an early focus on afforestation to an increasing concentration on training and then on forest policy advice at the national level, followed by a complete shift to working at the regional level.

German forestry advisers were first invited to the then Abyssinia by Emperor Menelik II in 1907. At that time 'modern' forestry consisted of the establishment of *Eucalyptus* plantations around larger cities to provide fuelwood and construction timber. The remnants of these early interventions can still be seen around Addis Ababa today. Afforestation was similarly the focus of Germany's first forestry development project, which began in Ethiopia in 1959 and was managed by the precursor of the GTZ until 1965. Following the drought of the early 1970s, a new project was launched in 1974 with the twin objectives of increasing afforestation (with the planned production of 500,000 seedlings per year) and combatting erosion. Food-for-work programmes involved local populations in constructing terraces and maintaining tree nurseries. 1986/7 saw a change in the focus of technical co-operation from that of providing local-level technical inputs to the provision of forestry advisory services. A training centre was renovated and a system of in-service training concentrated initially on producing a cadre of national foresters with the necessary skills to manage nurseries and lead inventory teams. The focus shifted again when policy advisers were brought in to help in the drawing up of forest policy guidelines, the identification of protected areas and the development of appropriate management plans.

By the early 1990s, however, it became clear that Germany's long-term involvement in Ethiopia's forestry sector had done little to halt or reverse the country's rapid deforestation rates. Even the 300,000 ha of afforestation and 400,000 km of terraces and soil bunds implemented since 1974 could not combat the effects of a long war followed by the demobilisation of Africa's largest army. Notwithstanding successful experiences in areas such as Jelo-Muktar, Setema Forest and Mount Yegof, the decision was taken in 1994 to end one of Germany's longest-running development projects. During the intergovernmental negotiations of that year, Germany outlined the conditions that would have to be in place before further technical co-operation in the forestry sector could be contemplated. These included laws to protect the remaining forests, enforcement of forest legislation, resolution of tenure questions, greater participation of local populations in forest management, incentives for afforestation, and decentralisation of forest administration from Addis Ababa to the regions. Although renewed national-level co-operation still awaits these changes, the possibilities for a new phase of forestry co-operation at the regional level are being tested with an integrated forestry project in Abada/Dodola.

(Adapted from Adelmann, 1994)

BOX 3 Mexico: Sustainable timber harvesting

The Quintana Roo project in Mexico is typical of many German forestry co-operation projects. Not only was it a long-running project (15 years) with a large research and training component, but it also embodied the conviction of German foresters that timber harvesting, if managed in a sustainable way, can be a vital component of forest people's livelihoods.

As early as the late 1970s a technical co-operation pilot project was established to look for alternatives to the existing over-exploitation and destruction of the humid forests in south-eastern Mexico. The project concluded that successful management would have to be in the interests of local people, offering them viable prospects for the future. In 1983, when the governor of the State of Quintana Roo handed an expired timber concession of over 500,000 hectares to local village communities (*ejidos*), the *Plan Piloto Forestal* project was set up to give ten *ejidos* the opportunity to develop a permanent community forest management system. The Mexican-German team of advisors were asked to support the *ejidos* in learning and deciding for themselves how to manage the forest and the resulting income.

Taking a highly participatory approach, unusual for its time, the GTZ project provided technical advice to enable *ejidatarios* to: inventory the forests and stocks of timber; draw up plans for sustainable forest management; divide the forest into different land-use zones including areas for protection; apply appropriate methods of tree-felling, extraction and regeneration; and develop plans for the protection of wildlife and for eco-tourism. In addition to this technical support, the GTZ strategy also emphasised the institutional and policy basis of community forest management. One of the important institutional developments was the establishment of the Society of Ejido Forest Producers (SPFE), which coordinated policy, extension, research and marketing strategies. Following a careful process of dialogue involving a radical change in State attitudes to community forestry extension an agreement was reached between the Ministry of Agriculture and Natural Resources, SPFE and the GTZ which gave SPFE the responsibility for providing paid extension advice to individual *ejidos*. Taking a pro-active approach, SPFE also began to take a lead in setting market prices in the State, and successfully lobbied for the removal of State subsidies which had acted as a disincentive to investment in both the sawmills and the forests. The initially sceptical State forest authority began to appreciate the advantages of the new forest management system and gradually delegated more of its forest supervision and protection roles to SPFE's foresters.

Progress was not always easy. As incomes from the forest began to increase the *ejidos* had to establish mechanisms to distribute profits, especially in the form of an improved communal infrastructure. Particularly problematic was the need to balance the desires (and profits) of *ejidos* with different types of resources (size of forest and species composition) and with different traditions and management goals (such as the indigenous Mayan groups). Certain technical issues also required further research such as the question of how to process and market hitherto unused timber species, and how to improve regeneration of mahogany, the most important local species. By the early 1990s, however, the project was no longer technically or financially dependent on GTZ, and today over 50 *ejidos* in Quintana Roo and neighbouring states are managing their forests according to the model developed in the *Plan piloto forestal*.

(Richards, 1992; GTZ, 1997)

9. CONCLUSIONS AND TRENDS

Germany has a long-established international reputation as the birthplace of sustainable forestry and its foresters were widely employed in the forest services of various colonial powers. Chief among these were the Dutch and the British, and it was in Burma, India and Java that German foresters developed tropical forest management systems that were to form the basis for forest management throughout the Asian and African colonies.

Today, Germany remains influential in the forestry field, contributing 15% of total international forestry aid, thus making it the most important bilateral donor. This large volume of funding is in part due to pressure from a well-informed and environmentally active public. Germany also plays a key role in supporting several important multilateral programmes such as the Global Environment Fund and the Brazilian Pilot Programme, both of which it was instrumental in initiating. This reflects Germany's belief that the extreme complexity of forestry issues can only be tackled in an integrated manner, where possible within the framework of national strategies or international programmes.

Within its bilateral tropical forestry co-operation activities, Germany has been tending away from the early technically oriented projects which focused on forest inventories, afforestation and individual training. Instead, in recognition of the many extra-sectoral factors that underlie forestry problems, it is increasingly looking for ways to tackle the political, institutional and socio-economic context within which technical solutions can be attempted. There is thus a trend away from straightforward forestry projects to integrated projects in which the forestry component is one of a number of complementary development options.

A similar trend in favour of a programmatic approach is in conflict with Germany's unusual institutional separation of financial and technical co-operation (Ashoff, 1996). Traditionally, technical co-operation implemented by the GTZ was considered to be the most appropriate way of tackling tropical forestry issues. Since 1988, however, when Chancellor Kohl announced a large increase in funding for tropical forestry activities, financial co-operation measures (implemented by the KfW) have come to predominate in the forestry field. Although theoretically quite separate, in practice the distinctions between the two are becoming less and less clear, particularly in forestry where partner countries often lack the capacity to implement large capital assistance projects without a certain amount of accompanying technical expertise. Recent years have therefore seen increasing collaboration between financial and technical co-operation, e.g. in the respective funding of protected area demarcation and the development of an adjacent buffer zone.

Close collaboration is necessary to overcome the limitations imposed by a highly differentiated development co-operation system, in which the division of labour between the BMZ and the major implementing agencies (KfW and GTZ) is not always clear. Different approaches to the funding and definition of forestry projects by the three institutions make it difficult to obtain a complete overview of German tropical forestry activities. On the other hand, this pluralism, which also involves a multitude of NGOs, private foundations, the *Länder* and municipalities, is a strength in that it allows for the flexibility to tackle a range of complicated issues in a variety of ways.

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BFH	Bundesforschungsanstalt für Forst- und Holzwirtschaft (Federal Research Centre for Forests and Forest Products)
BMBF	Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie (Federal Ministry of Education, Science, Research and Technology)
BML	Bundesministerium für Ernährung, Landwirtschaft und Forsten (Federal Ministry of Food, Agriculture and Forestry)
BMU	Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (Federal Ministry for the Environment, Nature Conservation and Nuclear Safety)
BMZ	Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (Federal Ministry for Economic Co-operation and Development
CGIAR	Consultative Group on International Agricultural Research
DED	Deutscher Entwicklungsdienst (German Development Service)
DSE	Deutsche Stiftung für Internationale Entwicklung (German Foundation for International Development)
EC	European Commission
FAO	Food and Agriculture Organization of the United Nations
GEF	Global Environmental Facility
GTZ	Deutsche Gesellschaft für technische Zusammenarbeit (German Agency for Technical Co-operation)
ITTO	International Tropical Timber Organisation
IUCN	World Conservation Union
KfW	Kreditanstalt für Wiederaufbau (German Development Bank)
NGO	Non-governmental organisation
oda	official development assistance
SHIFT	Studies on Human Impact on Forests and Floodplains in the Tropics
TFAP	Tropical Forestry Action Plan
TÖB	Tropenökologisches Begleitprogramm (Tropical ecology accompanying programme)

TWRP	Tropenwaldrelevante Programme (Support to international programmes in tropical forestry)
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WB	World Bank
ZOPP	Zielorientierte Projektplanung (objectives-oriented project planning)

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