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Research Report

Lopsided business partnerships: An ex-post study of Danida's Private Sector Development Programme in India

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LOPSIDED BUSINESS PARTNERSHIPS
AN EX-POST STUDY OF DANIDA'S
PRIVATE SECTOR DEVELOPMENT PROGRAMME
IN INDIA

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Foreword

This study of the implementation and outcome of Danida's Private Sector (PS) Development Programme in India has been carried out at the initiative of the Danish Institute for International Studies and in concurrence Danish Ministry of Foreign Affairs and the Danish Embassy in New Delhi. The PS programme in India was implemented in the period 1993-2002. It was phased out – together with other components of Danida's programme in India – in the wake of India's nuclear tests in 1998.

The author has been conducting research on various aspects of development in India since the 1960s and has also been team leader for some evaluations of Danish development assistance to India. The fieldwork for this study took place over a five-week period in August and September 2006. Originally the report was intended to be written in late 2006 and early 2007, but the author was hired as team leader for three major international evaluations, two for the United Nations Development Programme and one for the Swiss Agency for Development and Cooperation. These tasks took the better part of two years, thus delaying this report. Supplementary fieldwork in Denmark was carried out in 2006, in late 2008 and in early 2009, but the report presents the picture as it was around September 2006.

The author would like to thank all those individuals who contributed to this study, especially the Indian managers of firms supported by the PS programme, who readily spared time for hour-long interviews. The same is true of a number of other key persons who were involved in the PS programme in one way or another, notably four former coordinators of the programme in India. All those who were consulted are listed in Appendix 1. A few knowledgeable individuals kindly made comments on the draft of this report, but responsibility for the present study, including any shortcomings, rests squarely with the author.

Thanks are also due to several institutions, particularly the Danish Ministry of Foreign Affairs and the Danish Embassy in New Delhi, both of which provided essential assistance in tracking old, indispensable documents. Special thanks also go to the Industrialisation Fund for Developing Countries (IFU), which provided valuable information and helped open the doors to some of the firms. Both the ministry and IFU commented on the draft report.

The aim of this study is to provide documentation about the results of one of Danida's major programmes. As such it can be seen as a small contribution to Danida's efforts to be accountable to Danish taxpayers, as well as to the Indian authorities and stakeholders. The PS programme has been controversial throughout its entire existence, and this study will probably add another spark to the fire. However, adherents and opponents of the programme both need to know the facts, and there are few well-documented studies of what has come out of it.

There are currently PS programmes in almost all of Danida's programme countries. The India programme now belongs to the past. But in spite of contextual differences between countries and the introduction of some changes in the programme – in particular in 2006, when the programme had a major overhaul and was recast as the Business2Business (B2B) Programme – there are still lessons to be learnt.

DIIS, Copenhagen, March 2009
Steen Folke, Senior Researcher

Executive Summary

Introduction

The report presents the results of an ex-post study of Danida's Private Sector Development (in this report PS, elsewhere also referred to as PSD) Programme in India, which was implemented in the ten years from 1993 to 2002. This programme supported business partnerships between Danish and Indian firms through grants aimed at facilitating transfers of technology and know-how in order to make these partnerships commercially viable. The study deals with implementation as well as outcomes, the latter viewed ex-post, four years after the programme's termination. The main focus is on outcomes in India, in particular for the Indian partner firms. The rationale for this is that the programme formed part of Danida's overall programme and as such was intended to strengthen the Indian partners and contribute to India's economic and social development.

Danida's PS Programme in India was implemented in two phases from 1993 to 2002. The programme aimed at supporting business-to-business cooperation between Danish and Indian firms. In the first phase, 1993-96, the programme was focused on the agro- and food industry in the two southern states of Karnataka and Tamil Nadu. In the second phase, 1996-2002, the programme in principle covered all industrial (and some service) branches and the entire country. After the Indian nuclear tests in May 1998, the Danish government decided to phase out the programme, and after 1999 no new partnerships were supported. However, in some cases ongoing collaboration was supported until 2002.

In the second phase, the programme's objective and strategy were specified as follows: 'The strategy of the PSD programme in India is to induce Danish companies, through the initial assistance by PSD offices and the supporting financial instruments, to provide technology transfer and relevant training to Indian companies as part of a long-term collaboration, which is self-sustainable on a commercial basis after the PSD programme support is withdrawn. Priority has been given to geographical areas around PSD and IFU offices where a close contact to the Indian companies can be obtained, and to industrial sectors where Danish companies have strong and well-established technologies and contribute to the development of India. A high priority has been accorded to assistance for improvement of working and external environments of the existing and new projects' (Royal Danish Embassy, 1998, pp. 8-9).

The study deals with the implementation and outcome of the PS support for Phase II partnerships. In the second phase, 1996-2002, 55 collaborations were supported at a total cost of DKK 74 million. Of these 21 were start-up facilities, amounting to DKK 9.4 million (13% of PS, Phase II), while 34 were partnerships, amounting to DKK 64.4 million (87% of PS, Phase II). These are by far the most important in the programme. Of course, the start-up facilities have also produced an effect, but the limited amount involved makes it less likely that this will be highly significant and thus amenable to an ex-post study many years later.

Around two thirds of the Phase II partnerships were located in or in the vicinity of the metropolitan cities of Delhi, Mumbai (Bombay), Bangalore and Chennai (Madras). The remaining partnerships were scattered all over the country (in 12 different states). In order to make the study feasible, a *sample* has been identified, consisting of all partnerships in and around the four cities mentioned above. Thus the study covers 23 partnerships (65% of all partnerships), supported by a total amount of DKK 41.9 million (57% of PS, Phase II). This is a very high coverage compared to most other such studies and evaluations.

The *fieldwork* in India was carried out in a five-week period in August and September 2006 in and around Delhi, Chennai, Bangalore and Mumbai. It consisted mainly of face-to-face interviews with management representatives from the joint ventures and Indian firms that had been involved in the partnerships. In addition to the firm interviews, a number of other interviews were conducted in both India and Denmark, supplemented by extensive documentary studies.

One issue has given rise to certain complications in writing the report. In Chapter 3 the firms involved in partnerships that were supported are presented with names and location, the composition of their joint ventures, the objective of the PS support and the amount granted and disbursed. All of this is based on open sources. It is no secret which firms were involved, what the objective was or how much support they received. Moreover, this presentation provides some 'flesh and blood' to the report (and the persons consulted are also listed with their firms in Appendix 1).

However, in Chapters 4 and 5, which contain the assessments of the PS support for the partnerships, all partnerships are anonymized. Each partnership has been given a randomly selected letter (A, B, C etc.), and in these two chapters they are only referred to by this letter. Although these chapters do not contain any firm's secrets,

they do deal with certain more sensitive matters, and those interviewed were assured that nobody would be quoted directly by name.

Implementation

The main modalities of the PS programme in India were grants for feasibility studies, training, technical assistance and equipment supply.

The *feasibility studies* were superficial in some cases, more thorough and professional in others. They tended to be too optimistic in their assessments of marketing potential and commercial viability, and on the whole in not adequately envisaging the many challenges involved in such partnerships. It appears that in many cases the Danish firms involved were able to steer the feasibility studies in their favour, based on their own interest and involvement as well as close links between the firms and the Confederation of Danish Industries and the Danish Federation of Small and Medium Enterprises, which carried out most of these studies. The involvement of Indian consultants was minimal. A more impartial and balanced approach could have contributed to more realistic assessments of the commercial prospects.

Huge amounts of *training* in both India and Denmark were carried out with funding from the PS programme. With few exceptions, the great majority of this training was implemented within the partner firms. In this sense it was tailor-made training serving the partnership objectives. In most cases there were discrepancies between the very elaborate training plans spelled out in the project documents and what was actually implemented. Generally, the training in both Denmark and India appears to have been appropriate and sufficient, although there were cases where this was not so. It is clear that in many cases the training led to a significant upgrading of the trainee's skills.

Both the training of Indian staff in Denmark and the extensive use of Danish trainers in India have evidently increased the training costs very considerably. Given the objective of the partnerships, to some extent this has been unavoidable, but there is no doubt that the use of both modalities would have been more economical if Danida had not footed most of the bill. More widespread use of Indian trainers would have been appropriate in many cases, and this would obviously have reduced the training costs a great deal.

In most cases the PS support to the partnerships included an important component of *technical assistance*. Typically one or several staff members in the Danish partner firm

were stationed with the Indian partner or in the joint venture for many months – and even up to 3 years – in order to facilitate the transfer of technology and know-how. Usually the Danish advisors had a technical background in engineering or similar, but in some cases the advisors had managerial rather than technical skills. They were seen by both the Danish and Indian partners as representatives of the Danish firm who were formally or informally monitoring the entire operation. Such a role is challenging for both partners, and its success depends on much more than technical skills, notably personal character, openness, commitment, cultural sensitivity and the ability to adapt to a foreign setting.

In about half of cases the technical assistance was implemented well and served its purpose, but the other half was more problematic. In the latter cases the advisor was generally perceived as ‘the wrong person’, whether in terms of qualifications, experience, attitude, commitment, adaptability or whatever. The Danish partner firms ought to have ensured better selection and more careful preparation of the advisors, and the PS programme could have made some demands in this respect.

In spite of the PS programme’s desire to support partnerships with an *environmental dimension*, there were only a very few small initiatives aimed at improving the external environment among the partnerships under study, and by and large these did not have any significant results. The few more substantial contributions had to do with the working environment. In all three cases the focus was primarily on the working environment in new factory buildings, in particular dust extraction and ventilation systems. In two of the cases the equipment functioned well. In the third case the installations partly broke down, and the Indian partner claimed that the improvements had not benefited the firm but had rather added to its costs. He saw PS support as an attempt to introduce Danish standards in an Indian context where they were unwarranted and unsustainable.

The *administration of the PS programme* in India was carried out by able and dedicated staff members. The PS programme was closely monitored by the administration, which produced status reports on either a monthly or a quarterly basis, as well as annual reports. There were also some weaknesses in the administration, including unrealistic time horizons and inadequate risk assessments. The administrative task was made more difficult by the decision to phase out the programme at a time when it had really begun to make headway, as well as the subsequent vacillation around this decision.

Some weaknesses had more to do with the guidelines for the PS programme and the way it was administered in the Ministry of Foreign Affairs in Copenhagen than with its administration in India. Most important among these was the primary orientation towards the interests of the Danish partner.

A key administrative provision in the programme was the principle that it generally covered 90% of the training and technical assistance requirements, as well as in some cases equipment supply and feasibility studies. The advantage of this was that it encouraged all interested Danish firms to become involved in a partnership without running more than minimal risks. But the drawback was that there was too little at stake for the firms: the availability of 'easy money' tempted them to opt for modalities that were not cost-effective, including extensive use of costly Danish personnel. In some cases the Danish firms embarked on ventures with too little commitment and thus a high risk of failure. One of the former PS coordinators stated that 50-60% funding would have been more appropriate.

In view of the interrelated objectives, it was obvious that the PS programme should establish *cooperation with IFU* in India. Throughout the existence of the PS programme, there was in fact close collaboration between the two. Both the PS coordinators and the IFU administrators saw the collaboration as mutually beneficial.

It is clear that IFU and the PS programme complemented each other and produced an element of synergy for the partnerships. IFU provided share capital and the PS programme funded training and technical assistance. In this way, those partnerships in which both were involved received the benefits of two types of official support. No doubt this contributed to the commercial viability of the successful partnerships, most of which involved large Danish companies. IFU saw itself as a neutral partner, inclined neither towards the Danish nor the Indian partner, but many Indian partners viewed IFU as part of the 'Danish' side. Thus the cooperation between the PS programme and IFU corroborated the perception among some Indian partners that both types of support were biased in favour of the Danish partner's interests.

Outcome

The overarching objective of the PS programme was to support partnerships between Danish and Indian firms in such a way that they became commercially viable. At the same time, there was a requirement that the Indian partner received substantial benefits from the partnership.

It turned out that 10 of the 23 partnerships studied had become commercially viable. The reasons for achieving or not achieving *commercial viability* are clearly complex: they have to do with the character of the partnership, the relevance of the PS support, the appropriateness, innovativeness and quality of the technology, the training and technical assistance provided, and market parameters.

The character and evolution of the *partnerships* between the Danish and Indian firms were of decisive importance for the outcome. Of the 23 partnerships studied, no less than 17 were intended to become joint ventures. In three cases they did not materialize for various reasons, but 14 partnerships actually took the form of joint ventures. Of these, 11 also had IFU involvement. Seven of the 10 partnerships that became commercially viable had the form of joint ventures. But it is noteworthy that no less than 4 of these afterwards became 100% subsidiaries of a Danish partner (in one case this was reversed later when the Danish company exited from all its businesses in Asia). A fifth was in fact established right away as a Danish subsidiary, although a partner was nominally involved.

This outcome was not in line with the main objective of the programme, which focused on 'long term collaboration' with Indian companies. The PS programme did not aim to support the establishment of subsidiaries of Danish firms, and it was a requirement that there must be an Indian partner (whereas IFU had no such requirement). Thus it is a matter of concern that half of the commercially successful partnerships evolved in this way and ended up as subsidiaries.

There were cases where the Indian partner felt sidelined or even cheated. But more generally too there was a perception among the Indian partners that the PS programme was primarily intended to benefit the Danish partner. Several Indian managers interviewed pointed out that almost all the PS support money was given to the Danish partner, and they saw this as an indication of a lopsided approach. One manager who had had a key role in a partnership in fact claimed that he did not know that there had been support from PS/Danida! It can be argued, however, that in view of the task – transfer of technology and know-how – it is natural and almost unavoidable that most (or all) money should be given to the Danish partner. Nonetheless it would have been possible to involve more Indian expertise, and this could have given Indian partners what some of them would perceive as a fair share of the money.

Another issue is the programme's role in relation to small and large firms. Among the 23 partnerships, 9 of the Danish firms were small (less than 25 employees) or

medium-sized (25-100 employees), 14 large (more than 100 employees). Most of the large firms were in fact very large, often among the largest in Denmark in the various branches, with more than thousand employees. Against this backdrop, it is noteworthy that 9 of the 10 partnerships that became commercially viable involved large Danish firms, whereas only one partnership with a small or medium-sized Danish firm became commercially viable (for the Indian partner). This, no doubt, reflects the fact that the large firms had more resources, human as well as financial, to tackle the many challenges in such a partnership.

But this, of course, raises another issue, namely the extent to which the funding from the PS programme had a decisive role in fostering the partnership and contributing to its success ('additionality'). Clearly, the role of the programme was more significant in relation to the small and medium-sized firms, which in most cases would not have ventured into partnerships on their own with Indian firms. The large firms could much better afford this, and there were partnerships that were or would probably have been established even without PS support, but also some (involving large firms) where the PS programme had a decisive catalytic role.

The PS programme did not specify any targets concerning the *employment effect* of the support given, and one of the former PS coordinators conceded that in the India programme there was little focus on the employment issue. Nevertheless, it was understood that the employment created was an important effect of the programme. By 2006 the commercially viable firms had a total employment of around 2100 persons. This, however, cannot be interpreted as 'direct job creation' of the programme, since many other factors contributed to this outcome. In some cases the role of the programme was decisive, in other cases marginal.

One interesting aspect is the *gender* distribution. Women constitute 27% and men 73% of the total. Men constitute the overwhelming majority among the graduate and other salaried staff, and they are also in majority among the manual workers in 9 of the 10 firms. This, among other things, is a reflection of the pervasive gender roles in Indian society, but it also mirrors a lack of concern for gender issues in the PS programme itself.

It is noteworthy that the Indian trade unions, which are quite strong, were absent in virtually all the firms. But of course there are other ways of ensuring a proper dialogue between management and employees. The *wages and salaries*, with all their differences, were in general agreement with the conditions applying in the Indian labour market.

In comparison with wages and salaries in Denmark, they were obviously abysmally low. It is no secret that the low cost of labour has been one of the key attractions for Danish firms in engaging in partnerships with Indian firms.

Concluding remarks

There is no doubt that the PS programme in India has contributed to economic and social development, both by supporting business partnerships that became commercially viable and through its effect in terms of employment. It is another question whether this was done in an effective and efficient way. The outcome has to be seen in relation to the DKK 74 million granted to the programme (in the second phase). The extensive use of Danish personnel for both training and technical assistance was necessary to some extent, but clearly more widespread use of Indian personnel would have been appropriate and would have reduced costs considerably.

Moreover, the programme only accomplished its main objective, 'to provide technology transfer and relevant training to Indian companies as part of a long-term collaboration, which is self-sustainable on a commercial basis,' to a limited extent. In most cases technology was transferred and relevant training provided, but only 10 of the 23 partnerships examined became commercially viable (43%). Only 1 of the 10 involved a small or medium-sized Danish partner firm. The remainder were all large companies, and in 5 cases the partnerships were soon turned into subsidiaries of these Danish companies, thus negating the objective of 'long-term collaboration' with an Indian partner. Thus, gauged by the programme's own objectives there were 5 successful cases – understood as commercially viable, long-term partnerships – out of 23, a rather disappointing 'success rate' (22%). In addition, one case can be viewed as some sort of success in that an Indian firm was enabled to take over a Danish subsidiary after the mother company decided to exit from all its business in Asia.

It must be concluded that a handful of large Danish companies figure prominently among the primary beneficiaries of the PS programme in India, whereas only one partnership with a small or medium-sized Danish firm became commercially viable (and only for the Indian partner). The involvement of Indian partners in the successful partnerships was limited to a small number, three in joint ventures and three in other forms of partnership.

The results of the PS programme in India have clearly not measured up to expectations or to the programme's own objectives. There are many reasons for this, related

to the partnerships, the technology, the markets etc. But the PS programme itself – the way it was conceived and administered – has had a bearing on the somewhat meagre results. In particular, as evidenced by this study, the programme, with its bias in favour of the Danish partners, and in particular of large Danish companies, has contributed to what can only be described as lopsided business partnerships.

Chapter I. Introduction

The report presents the results of an ex-post study of Danida's Private Sector Development (in this report PS, elsewhere also referred to as PSD) Programme in India, which was implemented in the ten years from 1993 to 2002. This programme supported business partnerships between Danish and Indian firms through grants aimed at facilitating transfers of technology and know-how in order to make these partnerships commercially viable. The study deals with implementation as well as outcomes, the latter viewed ex-post, four years after the programme's termination. The main focus is on outcomes in India, in particular for the Indian partner firms. The rationale for this is that the programme formed part of Danida's overall programme and as such was intended to strengthen the Indian partners and contribute to India's economic and social development.

The introductory chapter presents the main features and history of the PS Programme, first generally and then in India. This is followed by a section outlining the structure and contents of the rest of the report.

1.1 Danida's Private Sector Development Programme

Danida's PS Programme was established in 1993 and implemented in three selected 'test' countries, Zimbabwe, Ghana and India, in the programme's first phase from 1993 to 1995. In this phase the programme had a total budget of DKK 180 million and three components (Danida 1993a):

- Support to the establishment of long-term collaboration between Danish business enterprises and business enterprises in developing countries, also called Business-to-Business projects.
- Support to improvements in the enabling environment.
- Support to the commercialization and privatization of state-owned industrial enterprises aiming at the potential establishment of Business-to-Business collaborations.

The PS programme document quoted above also underlines the fact that 'the overriding principle of Danish development assistance is – and always has been – to focus the effort on combating poverty...'. However, there remained for many years

(in fact until 2006) an ambiguity over whether the programme had to contribute to poverty reduction.

There were substantial differences between the implementation of the programme in the three countries, and experiences were mixed. A review (Danida 1995), however, recommended an extension and expansion of the programme. The programme was modified so that its primary focus was on business-to-business collaboration between firms in Denmark and firms in the developing countries. The support to the improvement of an enabling environment was taken out of the programme (but reintroduced later in other Danida programmes).

Hence, a modified five-year second phase of the programme was planned for 1996 to 2001, and during this phase the programme was expanded so that it was implemented in six countries, the three original ones plus Uganda, Egypt and Vietnam. In this phase there was more emphasis on uniformity of implementation in all the programme countries. The total budget for the five years was initially DKK 750 million, later increased to about DKK 853 million (Danida 2001, p. 7).

In 1999 a new review of the programme was carried out. The TOR of this review specified the objective of the programme in the following way: ‘The long-term objective of the programme is to contribute to economic and social development in the recipient country. This is being done by supporting certain activities conducive to sustainable economic growth, such as job creation, transfer of technology and know-how, enhancing the professional levels, increase export earnings, emphasizing environmental aspects, securing occupational health, etc.’ (Danida 1999).

Based on the review it was decided to expand the programme further to five new countries: Bolivia, Nicaragua, Mozambique, Tanzania and Nepal. At around the same time it was decided to phase out the programme in India (see below), and Bangladesh was included as replacement for India.

In 2001 an evaluation for Danida was carried out by the consultancy firm Development Associates. It was based on fieldwork in Ghana, Egypt and Vietnam. It came to the following overall conclusion: ‘In the perspective of the current design the Programme is reasonably successful. It is in general effectively implemented within the designed framework by a competent and dedicated staff. [...] However, the design is narrowly focused on individual private business-to-business co-operations with limited concern for broader aspects of development of the private sector as a whole

and for the role of private-sector development in overall growth and development of the respective countries. Consequently, the development impact of the Programme is limited and less than optimal' (Danida 2001a, p. 3-4).

Based on this conclusion, the evaluation recommended a re-design of the programme in a more contextualized and strategic direction. This was concretized with a number of more specific recommendations. Danida, however, rejected the recommendations and shelved the evaluation, something very unusual in Danida's evaluation practice.

After the change of government in 2001, it was decided to establish PS programmes in all Danida's programme countries. In 2004 a Danida Meta-Evaluation of Private and Business Sector Development Interventions was carried out by the consultancy firm NCG. Among its conclusions were the following: 'With respect to development effects, interventions at meso- and macro-levels have a higher probability of relevance than micro-level ones, although micro-level instruments may also have direct and indirect development outcomes when well designed' (Danida 2004, p. 8).

Danida was not entirely satisfied with this finding, as shown by its comments to the evaluation:

'Danida finds that the Meta-Evaluation does not fully recognize the contribution that the various Danish business instruments give to the aid programmes in the partner countries. Within the context of private-sector development, private Danish companies often make significant contributions, e.g. in transfer of business management skills and know-how, business-relevant technologies, quality assurance and standards as well as cost-effective working processes. Furthermore, the first-hand experience of Danish companies involved in business-to-business contacts as those facilitated by the PS programme provides Danida with important insights which can be put to use in the design of the business sector programmes' (Danida 2005, p. 4).

In 2005 there emerged some highly critical journalistic articles and TV programmes questioning the relevance of the PS programme for the developing countries. They engendered a comprehensive public debate and led to the establishment of a 'Reference group for analysis of the PS programme' that recommended new guidelines for it, among them (Danida 2006, translated from Danish):

- Renaming the programme ‘Business2Business Programme’
- Specifying that the programme’s overarching objective is to contribute to poverty reduction
- The support must benefit firms in developing countries
- Increased focus on additionality and development effects
- Improved monitoring and documentation of results
- No support for 100% owned subsidiaries of Danish companies
- Support to joint ventures only with a minimum of 25% local ownership
- Strengthening the gender aspect
- Strengthening the content and quality of feasibility studies
- Implementation of a uniform rate of support equivalent to 90% of the costs
- Strengthening of cooperation with IFU and sector support programmes

Based on the recommendations of the reference group, new guidelines for the programme were developed and gradually implemented. In the preface to the new guidelines, the Minister for Development Cooperation wrote: ‘The programme’s success must be gauged by whether it contributes to economic and social growth in the developing countries. Now as before, it is local firms and people that must benefit from the support. It is because of this that it works!’ (pp. cit., p. 2, translated from Danish).

1.2 The Private Sector Development Programme in India

Danida’s PS Programme in India was implemented in two phases from 1993 to 2002. The programme aimed at supporting business-to-business cooperation between Danish and Indian firms. In the first phase, 1993-96, the programme was focused on the agro- and food industry in the two southern states of Karnataka and Tamil Nadu. In the second phase, 1996-2002, the programme in principle covered all industrial (and some service) branches and the entire country. After the Indian nuclear tests in May 1998, the Danish government decided to phase out the programme, and after 1999 no new partnerships were supported. However, in some cases ongoing collaboration was supported until 2002.

Industrial and foreign trade policies in India had gone through a fundamental transition since July 1991, when the then finance minister (and later prime minister) Manmohan Singh announced the New Economic Policies of the Congress-led government. The changes included the abolition of industrial licensing in most branches, thus ending the notorious ‘License-Permit Raj’. They also widened the scope for the private sector,

reduced restrictions on large firms (monopolies) and removed regulations pertaining to foreign investment and international business collaboration. Specifically, until then there had been a 40% cap on foreign equity; now permission was given for foreign investors to acquire 51% equity (Kumar and Sethi, p. 119). Moreover, foreign trade was liberalized and steps were taken towards making the rupee convertible. Gradually the reforms were deepened, leading to further liberalization and privatization. These measures contributed to creating an enabling environment for a programme like the PS programme. However, many regulations remained in force, and in comparison with many other developing countries, India, with its well-developed legislation and competent, many-layered bureaucracy, was still considered a difficult country for foreign firms to operate in (op. cit., Chapter 8).

In 1992, a 'preliminary outline' for a PS programme in India was developed in the Danish Ministry of Foreign Affairs, indicating that 13 projects were already 'in the pipeline' (Danida 1992). More elaborate plans for the programme in India were contained in a 'Programme Reference Report' (Danida 1993b), which included a survey of the business climate, the programme proposal, organization, implementation and disbursement estimate. The estimate included support for 'one large collaboration' (above DKK 10 million) each year.

In the first phase – owing to the geographical and branch-wise restrictions – progress was slow and only a few partnerships were established. The total amount granted over the three years was only DKK 13 million (Sethi 1999, Appendix 3.1). In one case a partnership was supported with a grant of more than DKK 10 million (not all disbursed), but this soon evolved to become a subsidiary of the Danish partner rather than a true partnership. Three other partnerships were supported, but only one of these turned out successfully seen in relation to the programme's objectives (information based on e-mail from the Head of the PS Secretariat, 1/11/2005).

Based on the experience of the first phase, the maximum grant was reduced, first to DKK 5 million and then to DKK 3 million. In the second phase, demand for support was high among both Danish and Indian firms. The programme provided start-up facilities for cooperation between a Danish and an Indian firm worth up to DKK 500,000 and funding for partnerships of up to DKK 3 million (in one case DKK 4.3 million). The money was used for feasibility studies, special studies, travel expenses, training programmes, technology transfer, etc. Over the three years from 1996 to 1998, the value of the grants approved amounted to DKK 61.3 million, of

which DKK 45.4 million were for 'regular projects', i.e. partnerships (Sethi 1999, Appendix 3.1).

In the second phase, the programme's objective and strategy were specified as follows: 'The strategy of the PSD programme in India is to induce Danish companies, through the initial assistance by PSD offices and the supporting financial instruments, to provide technology transfer and relevant training to Indian companies as part of a long-term collaboration, which is self-sustainable on a commercial basis after the PSD programme support is withdrawn. Priority has been given to geographical areas around PSD and IFU offices where a close contact to the Indian companies can be obtained, and to industrial sectors where Danish companies have strong and well-established technologies and contribute to the development of India. A high priority has been accorded to assistance for improvement of working and external environments of the existing and new projects' (Royal Danish Embassy, 1998, pp. 8-9).

As part of the overall review of the PS programme in 1999, a review of the programme in India was carried out by an Indian consultant (Sethi 1999, no pagination). Questionnaires were sent to all Indian firms supported by the programme, and the consultant visited a limited number of the firms. The review concluded that the programme had contributed to economic growth, job creation, transfer of technology and know-how and enhancement of professional levels, but that it had 'limited impact on regional dispersal of projects'. The latter point is elaborated as follows: 'Danish companies (as do most other foreign investors) tend to prefer to locate in and near cities with a more "international" flavour'.

The review notes that 'the Danish companies have inevitably taken the lead in coming to India and prospecting for an Indian partner'. Further: 'The Indian stakeholders by and large feel that to a large part, the PSD programme was mainly for the benefit of the Danish partner and in many cases an Indian partner was only included as the PSD programme regulations specifically required this. It must however be noted that several of the Indian companies who held this view acknowledge the "trickle down" benefits to themselves'.

In 2006, one of the 'founding fathers' of the PS programme gave his version of the programme's history and achievements in India (Blicher-Olsen 2006). He painted a somewhat rosy picture, rather different from the reality unravelled by the present study.

1.3 The contents of this report

The study deals with the implementation and outcome of the PS support for second-phase partnerships – viewed ex-post, four years after the termination of the programme. Table 1 in Chapter 2 provides an overview of all Phase II partnerships.

In a number of cases the Indo-Danish partnerships were also supported by the Danish ‘Industrialisation Fund for Developing Countries’ (IFU), which provided capital as either loan or equity. The study also deals with the cooperation and synergy between these two forms of support.

The structure of the report is simple. The executive summary and introductory chapter are followed by *Chapter 2*, which outlines the approach and method. The approach is to study the implementation and outcome of the programme seen in relation to its own objectives. The emphasis is on the outcome in India, not in Denmark. The method is a combination of semi-structured interviews and documentary studies.

Chapter 3 gives a brief presentation of the 23 partnerships studied and the Danish and Indian firms involved. The focus is on the objectives of the partnership and the support from the PS programme.

Chapter 4 provides an assessment of the implementation of PS support for the partnerships. It deals with the main modalities, feasibility studies, training, technical assistance and equipment supply. It also takes up issues related to the administration of the programme and ends with a small section on the cooperation between IFU and the PS programme.

Chapter 5 contains an assessment of the outcome of the PS support for the partnerships – as viewed ex-post, four years after the termination of the programme. The main focus is on the commercial viability of the partnerships and their character. There is a secondary focus on employment, wages and working conditions in the firms that were supported.

Chapter 6, finally, presents the conclusion.

Appendix 1, which follows after the list of references, provides a list of all the individuals who were consulted for this study. Most consultations took the form of face-to-face interviews, but in some cases telephone interviews, shorter phone conversations or e-mail contact were used.

One issue has given rise to certain complications in the writing of the report. In Chapter 3 the firms involved in partnerships that were supported are presented with names and location, the composition of their joint ventures, the objective of the PS support and the amount granted and disbursed. All this is based on open sources. It is no secret which firms were involved, what the objective was or how much support they received. Moreover, this presentation provides some 'flesh and blood' to the report (and those who were consulted are also listed with their firms in Appendix 1).

However, in Chapters 4 and 5, which contain the assessments of the PS support for the partnerships, all partnerships are anonymized. Each partnership has been given a randomly selected letter (A, B, C etc.) and in these two chapters they are only referred to by this letter. Although these chapters do not contain any firm's secrets, they do deal with certain more sensitive matters, and those interviewed were assured that nobody would be quoted directly by name.

In principle this is straightforward, but in practice it has given rise to complications. In Chapters 4 and 5, it has been necessary to write about the training, technical assistance, technology transfers, the firms involved and the products in a slightly general way so that it would not be easy to see which partnership is being referred to by each letter. This has reduced the precision and level of detail, but not so as to become detrimental to the objective of the study.

Chapter 2. Approach and method

2.1 Approach

In some ways this study resembles an evaluation or an impact study. Over the last ten years, the author has been team leader on a number of such evaluations and impact studies for Danida, UNDP and others and has developed a methodology for this task which is presented in the book *Aid Impact and Poverty Reduction* (Folke and Nielsen, 2006, pp. 1-27). But this is neither a full-fledged evaluation nor an impact study.

It is not an impact study because such a study focuses on changes produced by the programme in the lives of the intended beneficiaries. This goes far beyond the scope of this study, which among other things has been limited by the fact that it has been carried out by one person and is based on five weeks of intensive fieldwork in India, supplemented by subsequent, more limited fieldwork in Denmark.

An evaluation of development cooperation will usually be structured around the five dimensions of relevance, effectiveness, efficiency, sustainability and impact, and although most of these dimensions are implicitly present in this study, they are not addressed in a systematic way. Furthermore, an evaluation would usually try to assess the outcome both for the Danish and Indian partners in the programme, whereas the focus in this study is primarily on the Indian partners. Moreover, this study does not end with a list of recommendations. That is because the PS programme in India was terminated in 2002 and because the PS programme more generally has evolved since then, in particular becoming subject to new guidelines from 2006, as well as being renamed the Business2Business programme.

Thus the main purpose of this study is to assess what came out of the second phase of Danida's PS programme in India, which is obviously of interest in relation to Danida's accountability to the Danish taxpayers. But although the India programme was terminated, and in spite of new guidelines and differences between Danida's programme countries, there are also lessons to be learnt that are still relevant for Danida's PS programmes in all programme countries as well as for similar programmes conducted by other donors.

Previous studies and evaluations of PS programmes, e.g. Schulpen and Gibbon (2001), Danida (2001), Danida (2004) and Kragelund (2005), have raised broader issues in relation to the PS programmes, including whether business-to-business partnerships

between firms in the donor country and firms in the recipient country are a relevant and effective modality in development cooperation and private-sector development.

The present study has a more limited scope. It focuses on the stated objectives of the PS programme in India and tries to assess to what extent these were accomplished. The overarching objective was 'to provide technology transfer and relevant training to Indian companies as part of a long-term collaboration, which is self-sustainable on a commercial basis after the PSD programme support is withdrawn.' (Danida 1998, pp. 8-9). Thus, this study investigates to what extent this did actually happen and discusses the reasons for success and failure. This means that it has a focus on both implementation and outcomes, the latter viewed *ex-post*, four years later. In addition to outcomes, the study throws some light on the effect of the programme – and the partnerships – in terms of employment, income, profitability, skills upgrading and working environment.

However, the study does not deal with the broader impact of the PS programme in India, e.g. whether there have been spin-off effects from the partnerships to other firms, or whether some of the firms that were supported have in fact out-competed other firms. Nor does it attempt to estimate the contribution of the programme to economic development and poverty reduction, nor does it deal with similar effects in Denmark. The immediate results for the Danish partners involved are assessed primarily in terms of the commercial viability and profitability of their involvement in India. But no attempt is made to gauge how important this has been for their viability, turnover, profitability or employment (in Denmark). The consequences of outsourcing for employment in the home country, in particular, have been controversial, and it is clear that the consequences can be both negative and positive in the short run as well as in the long run. But all these interesting issues are beyond the scope of this study.

In a different context, but with a focus on Danish-Indian business partnerships in the Chennai region (some of them the same as those studied here), Michael W. Hansen has analysed to what extent Indian firms have been able to upgrade their production and improve their competitiveness through linkages with large Danish firms. In the conclusion, he writes: 'While it appears that local firms benefit from linkages to the Danish firms, interviews with suppliers to the Danish firms suggest that the linkages are not always positive. [...] Even suppliers who have graduated into the group of preferred TNC suppliers are feeling pressured and argue that they carry the costs of fluctuations in the market. This study suggests that while linkages may lead to sig-

nificant expansion of activity and a substantial upgrading of performance, they may also lead to greater dependency and vulnerability' (Hansen, 2006, p. 27).

The present study was guided by a number of simple research questions:

- 1) What were the main elements of the collaboration, and how long did it last?
- 2) Did the Danish as well as the Indian partner deliver what could reasonably be expected, and did the collaboration unfold smoothly?
- 3) Did the partnership involve new or improved products, new or improved production methods or new or improved marketing opportunities, either in India or abroad – and with what effects?
- 4) Was the technology transferred appropriate?
- 5) Was the training and technical assistance provided relevant and sufficient?
- 6) Were new standards (e.g. technical, economic, social, environmental) introduced, and with what effects?
- 7) What was the effect of the partnership in terms of employment and skills upgrading (management, staff, skilled and unskilled workers, men and women)?
- 8) What was the effect of the partnership in terms of income and profitability?
- 9) What was the effect of the partnership in terms of working conditions and wages?
- 10) What was the effect of the partnership in terms of environmental changes?

2.2 Method

The study deals with the implementation and outcome of the PS support for Phase II partnerships. In the second phase in 1996-2002, 55 collaborations were supported at a total cost of DKK 74 million. Of these, 21 were start-up facilities, amounting to DKK 9.4 million (13% of PS, Phase II), while 34 were partnerships, amounting to DKK 64.4 million (87% of PS, Phase II). These are by far the most important in the programme. Of course, the start-up facilities also produced an effect, but the limited amount involved makes it less likely that this will be highly significant and thus amenable to an ex-post study many years later.

Around two thirds of the Phase II partnerships were located in or in the vicinity of the metropolitan cities of Delhi, Mumbai (Bombay), Bangalore and Chennai

(Madras). The remaining partnerships were scattered all over the country (in 12 different states). Table 1 gives the salient features of all Phase II partnerships (with the oldest partnerships at the top and the more recent partnerships at the bottom of the table). In order to make the study feasible, a *sample* has been identified, consisting of all partnerships in and around the four cities mentioned above. Thus the study covers 23 partnerships (65% of all partnerships), supported by a total amount of DKK 41.9 million (57% of PS, Phase II). This is a very high coverage compared to most other such studies and evaluations. The partnerships in the sample are marked in bold in the table.

Table 1 shows that the partnerships were extremely diverse in terms of sectors and branches. The sector-wise breakdown is: 14 industrial, 5 processing, 6 consumer and 9 service (but the criteria are not always clear). In terms of the industrial branches, the main categories are: machine 7, food/agriculture 6, leather/textiles 4, IT 4, pharmaceuticals 3, consultancy 3 and other 7. It can be seen that – unsurprisingly – the main branches represented are those that are strong in both Denmark and India. The main type of partnership is a joint venture; 21 of the partnerships have this form. In 13 of these, the Industrialisation Fund for Developing Countries (IFU) has contributed equity (or in a few cases loans) to the joint venture together with the Danish and the Indian firm. Six partnerships are in the form of license agreements and 5 in the form of buyback arrangements (while 2 are called ‘technical’, a rather opaque term in this context). The PS grant to the partnerships varies from DKK 0.6 million to DKK 4.3 million, being DKK 3 million or above in 6 cases, between 2 and 3 million in 10 cases, between 1 and 2 million in 11 cases and below 1 million in 7 cases.

A comparison of the 23 partnerships in the sample and all the 34 partnerships shows that the sample is reasonably representative in terms of type of partnership and industrial branches, as well as of the size of the PS grant (large/medium/small). The table also shows that virtually all partnerships that are not included in the sample are located in other major Indian cities (7 of 11 in cities with more than one million inhabitants). The large size and representativeness of the sample is a distinguishing feature of this study, since it enables the author to substantiate findings and draw general conclusions with a reasonable degree of certainty.

The *fieldwork* in India was carried out in a five-week period in August and September 2006 in and around Delhi, Chennai, Bangalore and Mumbai. It consisted

Table I. PS partnerships in India 1996-2002 and sample (in black) with grants (DKK million)

Product	DKK	Type	Sector	Branch	Location
Plastic medical	4.3	joint v./IFU	processing	pharma	Aurangabad
Bakery ovens	1.6	license	industrial	food/agro	Bangalore
Milk cooling	0.6	license	industrial	food/agro	Vital Udyog
Metal processing	1.6	buyback	industrial	machine	Chennai
Computer software	3.0	joint v./IFU	service	IT	Chennai
Electrical heaters	0.5	license	industrial	machine	Delhi
Flavours	2.9	joint v./IFU	processing	food/agro	Cochin
Engineering Consult	3.0	joint v./IFU	service	consultancy	Chennai
Diabetes electronics	0.8	technical	service	pharma	Chennai
Centrifugal Pumps	2.0	joint v./IFU	industrial	machine	Gurgaon
Fibre optic products	1.9	joint v./IFU	industrial	electro/el	Gurgaon
Woollen blankets	0.8	joint v./IFU	consumer	leather/text	Panipat
Green City planning	2.2	joint venture	service	environment	Delhi
Electrical products	3.0	joint venture	industrial	electro/el	Vadodara
Photo mapping	3.0	joint v./IFU	service	IT	Gurgaon
Child books	1.6	joint v./IFU	consumer	other	Mumbai
Wind Rotor blades	1.7	joint v./IFU	industrial	energy	Bangalore
Hosiery underwear	2.2	buyback	consumer	leather/text	Tiruppur
Candle lights	0.8	joint venture	consumer	other	Bangalore
Tank cleaning	1.3	license	industrial	machine	Jamshedpur
Food ingredients	2.7	joint venture	processing	foodagro	Sohna
Shoe uppers	3.0	buyback	consumer	leather/text	Vellore
Pollution Equipment	2.2	joint venture	industrial	environment	Vadodara
Leather furniture	1.2	buyback	consumer	leather/text	Kolkata
Condensing units	2.4	technical	industrial	machine	Chennai
Freeze-dried products	1.4	buyback	processing	food/agro	Dehra Dun
Pharmaceuticals	1.4	joint venture	processing	pharma	Mumbai
Seed cleaning mach.	1.3	joint v./IFU	industrial	food/agro	Bangalore
Data services	0.8	license	service	IT	Secund.bad
Software, shipyards	0.9	license	service	IT	Bangalore
Welding machines	2.5	joint venture	industrial	machine	Indore
Concrete machines	1.4	joint v./IFU	industrial	machine	Mumbai
Consultancy steel	2.5	joint venture	service	consultancy	Delhi
Ship design	2.1	joint v./IFU	service	consultancy	Bangalore
Sample in and around Delhi (8), Mumbai (3), Bangalore (6) and Chennai (6):					23
In other locations:					11
Total number of Phase II partnerships:					34

mainly of face-to-face interviews with management representatives from the joint ventures and Indian firms that had been involved in the partnerships. Appendix 1 provides a list of all the individuals who were consulted for this study. In some cases several people were interviewed, e.g. a former key person in the partnership and the present managing director. Where the partnership had the character of a joint venture, an attempt was made to interview one or more individuals, both in the joint venture and in the Indian partner firm. It was not possible in all cases to get the latter type of interviews, partly because of time constraints. The interviews were semi-structured, reflecting the questions listed in the previous section (2.1). In addition to the interviews, written documentation was collected. On average, the interviews were of one hour's duration. They were usually followed by a tour of the premises of the firm, most often a factory, which provided an opportunity to ask supplementary questions.

Owing to a combination of careful planning, many years of research experience in India and luck (!), it was possible within five weeks to interview key individuals in 18 of the 23 partnerships. In five cases (two with the same Indian partner) it proved impossible to obtain interviews, either because the firms did not exist anymore, because the key individuals previously involved could not be traced, or because (in one case) they did not want to be interviewed. In these cases, all of which had turned out not to be commercially viable, attempts were later made to obtain supplementary interviews with key individuals in the Danish partner firms. But this also proved to be difficult. In one case the Danish key person had passed away and his firm gone bankrupt, while in other cases the key individuals, some of whom had now changed jobs, were unwilling to be interviewed about the experience, including the reasons for commercial failure. However, in one case a key person in the Danish partner firm was interviewed by telephone and willingly shared his negative experiences. A few more, short phone conversations were carried out with key individuals in Danish partner firms.

In addition to the firm interviews, a number of other interviews were conducted in both India and Denmark. In Delhi two Danish former staff members of the Danish embassy, still in the country, were interviewed, as well as the PS programme's last Indian coordinator. Interviews were also obtained with the head of IFU's office in Delhi and a former IFU consultant in Chennai, as well as with the head of the Ministry of Foreign Affairs' Danish Trade Council in Bangalore. An Indian consultant, who formerly had a key role in both IFU's programme and the PS programme, was interviewed twice in Delhi.

In Copenhagen the author had an initial discussion with the head of the Ministry of Foreign Affairs office dealing with 'business instruments in development cooperation' and the head of the PS programme secretariat. Thorough interviews were conducted with three former PS coordinators (the India programme), two of them Danish and one Indian. An initial discussion was also carried out with the managing director and the deputy managing director of IFU, followed by an interview with IFU's director of corporate administration. The former Danish head of the IFU programme in India was also interviewed. Moreover, a key person in the Confederation of Danish Industries (Dansk Industri) and the Danish Federation of Small and Medium Enterprises (Håndværksrådet) were interviewed.

In addition to these interviews, *documentary studies* were carried out in Copenhagen. The author was fortunate in getting hold of a small 'library' of documents about the PS programme from its inception in 1993 to about ten years later. These documents included general reports and guidelines, as well as documents relating to the PS programme in India. On request, the Ministry of Foreign Affairs also provided key project documents pertaining to all 23 partnerships.

Chapter 3. Description of the partnerships and the PS support

This chapter provides brief descriptions of the 23 partnerships included in the sample (as specified in Chapter 2). This factual description is based on open sources, primarily the Danish embassy's initial one-page description of all partnerships. It presents the partners and deals with the objective of the partnership and the PS support. This is followed by assessments of the partnerships in the following two chapters. Table 2 presents the 23 partnerships between Danish and Indian firms listed according to industrial branch. The rest of the chapter is devoted to short descriptions of the individual partnerships.

1. Metro Therm A/S (Helsingør) and Usha Shiram (Delhi)/Ace Wheels Ltd. (Faridabad)

This partnership had the objective of establishing the production of enamelled water heaters and of introducing these in the Indian market, which had until then largely been supplied with water heaters made of copper that are subject to corrosion. Metro Therm, a small¹ Danish firm, had for decades supplied the North European market with enamelled water heaters. Ace Wheels, a small Indian firm, was planned to produce the water heaters, and Usha Shiram, a large Indian firm, to sell them all over India. The three partners signed a six-year agreement, and a license agreement between Metro Therm and Ace Wheel was signed. The PS support was primarily for training in both Denmark and India, plus a more limited element of technical assistance. The PS grant was DKK 0.52 million, of which DKK 0.45 million was disbursed.

2. Iron Pumps A/S (Herlev) and Maxflow Pumps Ltd. (Gurgaon)

The main objective of this partnership was to expand the product range of Maxflow's pumps with larger horizontal split casing pumps, produced for many years by Iron Pumps, a small Danish firm. Maxflow, a small Indian firm, had for many years produced a range of small pumps for the Indian market within the water supply, irrigation, power supply and mining sectors. A joint venture called Iron Maxflow Pumps was established with equity of INR 50 million, 30% held by Iron Pumps A/S,

¹ The PS programme distinguished between the Danish firms on the basis of the number of employees: small = less than 25, medium = 25–100, large = more than 100. In this report, the small and medium-sized firms are lumped together and called small.

40% by Maxflow Pumps Ltd. and 30% by the Industrialisation Fund for Developing Countries (IFU). The PS support was primarily for technical assistance, including the long-term posting of a Danish technical adviser, but also for some training in Denmark. The PS grant was DKK 1.96 million, all disbursed.

Table 2.
Sample of PS supported partnerships

No.	Indian firm	Danish firm	Branch	Product
1	Usha Shiram/Ace Wheel	Metro Therm	Machine	Electrical heater
2	Maxflow Pumps	Iron Pumps	Machine	Centrifugal pumps
3	Acme Manufacturing	Pedershaab	Machine	Concrete machines
4	Marshall Sons	H.M. Production	Machine	Sheet-metal processing
5	Ishwar/Parkaire	Danfoss	Machine	Condensing units
6	Jatia Group	Danisco Ingredients	Food/agro	Food ingredients
7	CS Medical	FN-Aerotherm	Food/agro	Bakery ovens
8	John Fowler	Westrup	Food/agro	Seed-cleaning machines
9	Parkash International	Vestergaard Frandsen	Leather/textile	Woollen blankets
10	Florence Shoe Co.	Eccolet Sko	Leather/textile	Shoe uppers and shoes
11	Nicholas Pirmal	Eurovita Holding	Pharma	Pharmaceuticals
12	MV Diabetes Centre	Novo Nordisk	Pharma	Electronic records
13	A.G. Consulting	Green City Denmark	Environment	Green city plans
14	LM India	LM Glasfiber	Energy	Rotor blades
15	Indian Telephone Industries	DSC Communication	Electronics	Fibre optic equipment
16	IL & FS	Kampsax Geoplan	IT	Photo mapping
17	Crompton Greaves	Maersk Data	IT	Computer software
18	Kuppuswamy	Dansteel Engineering	Consultancy	Steel consultancy
19	NIIT	Logimatic	Consultancy	Ship software
20	NIIT	Convoy Group	Consultancy	Ship design
21	ECC Construction	Rambøll	Consultancy	Engineering consulting
22	Indian Express News	Egmont Juvenile	Other	Children's books
23	House of Wax	Apollo Lys	Other	Candle lights

3. Pedershaab A/S (Brønderslev) and Acme Manufacturing Co. Ltd. (Mumbai)

The objective of this partnership was to transfer know-how and support the marketing of machines ('Multiflex') used for the production of concrete sewage pipes based on vibration casting technology under a license agreement. The large Danish firm, Pedershaab (a subsidiary of FLS Industries), which had developed and sold the 'Multiflex' machine in many Asian countries, entered into a joint venture with the Indian firm Acme, and IFU also invested capital and provided a loan of DKK 1 million. Total equity: INR 19.8 million, of which Pedershaab provided 40%, Acme 40% and IFU 20%. The PS support was both for training in Denmark and technical assistance, including the stationing of a technical adviser in India. The PS grant was DKK 1.39 million, of which DKK 0.90 million was disbursed.

4. H. M. Production A/S (Thisted) and Marshall Sons and Co. Manufacturing Ltd. (Chennai)

Because of increasing competition in the world market, H.M. Production, a small Danish firm, decided to have some of its sheet-metal processing machines produced in India, taking advantage of the low wages. The firm entered into cooperation with the Indian firm Marshall Sons, which formed part of a larger group. The objective was to transfer technology and know-how for the manufacture of folding, shearing and drilling machines for the sheet-metal processing industry. A buy-back agreement was signed. The PS support was both for training in Denmark and technical assistance in India, including the stationing of a technical adviser. An extension to the project and further grant was approved under the PS programme in order to develop the partnership into a joint venture. The total PS grant was DKK 1.59 million, of which DKK 1.16 million was disbursed.

5. Danfoss A/S (Nordborg) and Ishwar Cool Pvt. Ltd. (Mumbai)/Parkair Engineering Co. (Chennai)

The objective of the partnership was to establish cooperation for the assembling and marketing Danfoss condensing units for refrigeration and air-conditioning applications in India at competitive prices. Danfoss, a large Danish company, entered into cooperation with Ishwar, a small Indian firm authorized for the distribution of refrigeration and air-conditioning controls. The PS support was both for technical assistance and training, mainly in India. The PS grant was DKK 2.42 million, of which DKK 1.91 million was disbursed.

6. Danisco Ingredients (Brabrand) and the Jatia Group (New Delhi)

A Joint Venture was established between Danisco Ingredients, a division of a large Danish firm, and the Jatia Group, a large group with a range of diverse activities, whose subsidiary Borthwicks Flavours India Pvt. Ltd., a small firm, was to enter into the actual cooperation. Borthwick Flavours UK was acquired by Danisco Ingredients in 1997, i.e. prior to the cooperation in India. The joint venture, named Danisco Ingredients India PL, had a total equity of INR 100 million, 74% from Danisco, and 26% from the Jatia Group. The objective was to produce and sell flavours for the food industry and other Danisco Ingredients products in the Indian market. The PS support was among other things for training in Denmark and the UK and for technical assistance in India. The PS grant was DKK 2.67 million, though the higher sum of DKK 2.74 million was actually disbursed.

7. FN-Aerotherm A/S (Middelfart) and C.S. Medical Pvt. Ltd. (Bangalore)

This partnership had the objective of producing energy-efficient deck and rack ovens aimed at small and medium-sized bakeries in the Indian market. The Danish partner, FN-Aerotherm, a small firm, had produced such ovens for 25 years. The Indian partner, C.S. Medical, also a small firm, produced a range of mainly medical equipment but not bakery ovens. A license agreement formed the basis of the partnership. The establishment of a joint venture was discussed but not implemented. The PS support was both for training in Denmark and India and technical assistance in India. The PS grant was DKK 1.57 million, of which DKK 1.14 million was disbursed.

8. Westrup A/S (Slagelse) and John Fowler (India) Ltd. (Bangalore)

The two partners had already worked together and received support (DKK 1.39 million) under the first phase of the PS programme (1994-96). The objective of the renewed partnership was to transfer technology for the manufacture and marketing of seeds and grain-processing plant and equipment. Westrup, a large Danish firm, had for decades produced machines and equipment for the seed- and grain-processing industry. John Fowler, a large, well-established Indian firm, only started production of such equipment in 1993. The basis for the cooperation was a license agreement, later turned into a joint venture in which IFU also participated. The PS support was for training in Denmark and technical assistance in India. The PS grant was DKK 1.29 million, of which DKK 0.97 was disbursed.

9. K. Vestergaard Frandsen A/S (Kolding) and M/S Parkash International (Panipat)

K. Vestergaard Frandsen (KVF), a small, family-owned textile company, specialized in the manufacture and trading of equipment for refugee camps. Parkash, a

small, family-owned company, manufactured blankets. In 1992 Parkash had started exporting blankets to Vestergaard Frandsen. The objective of the partnership was primarily to transfer production know-how and technology in order to improve the working environment of the production. A joint venture called Indo-Dane Textiles (IDT) was set up with a total capital of INR 12 million, 35% from KVF, 35% from Parkash and 30% from IFU. The PS support was among other things for training and technical assistance. The PS grant was DKK 0.84 million, all disbursed.

10. Eccolet Sko A/S (ECCO, Bredebro) and Florence Shoe Co. (Vellore)

ECCO, a large Danish firm producing shoes for the international market, had bought shoe uppers from India since 1983 and from Florence since 1988. ECCO entered into a long-term agreement with Florence, a large, family-owned Indian shoe-producing firm, for the production of high-quality shoe uppers and shoes, based on a buy-back agreement. Florence was to serve as the main partner, but four other firms in the region would also be involved. ECCO would provide all technical inputs and take charge of pre-production activities, production engineering and quality control. The objective of the partnership was to transfer technology and know-how to the Indian partners in order to enhance their capacity and improve quality. The PS support was for training and technical assistance, including the posting of a technical adviser. The PS grant was DKK 3.0 million, all disbursed.

11. Eurovita Holding (Karlslunde) and Nicholas Piramal India Ltd. (Mumbai)

The objective of this partnership was to start production in India of a range of natural remedy pharmaceutical products for the Indian and international markets. Eurovita, a small Danish firm, was already producing and marketing such products and was intended to transfer know-how to Nicholas Piramal, a large Indian pharmaceutical company. The two firms were to set up a joint venture, 51% owned by Nicholas Piramal and 49% by Eurovita. The PS support was for training in India and Denmark as well as technical assistance in India. The PS grant was DKK 1.42 million, of which only DKK 0.20 million was disbursed.

12. Novo Nordisk A/S (Copenhagen) and MV Diabetes Specialities Centre Pvt. Ltd. (Chennai)

This partnership was entered into between Novo Nordisk, a large Danish firm and global leader in the production of treatments for insulin patients, and a large, privately owned diabetes clinic in Chennai. The objectives of the partnership were: 1) adapting and transferring Novo's Diabetes Electronic Medical Records (DEMR) System to the

Indian clinic; and 2) marketing the system to other clinics in India and worldwide. The PS support was mainly for technical assistance by Novo and software adaptation by CG Maersk Information Technologies Ltd., Chennai, a joint venture under another PS project (see below, No. 17). The PS support was DKK 0.79 million, all disbursed.

13. Green City Denmark (Herning) and A.G. Consulting (Delhi)

The main objective of this partnership was to explore business opportunities for utilization of Danish technologies in various spheres of energy and environment. Green City Denmark was a small Danish firm with links to other Danish firms, whereas A.G. Consulting was a small Indian consultancy firm. A joint venture called Green City India was set up with a total equity of INR 10 million, 25% from Green City Denmark, 40% from A.G. Consulting and 35% from other Danish and Indian firms. The PS support was both for technical assistance and training in Denmark and India. The PS grant was DKK 2.16 million, though the slightly larger sum of DKK 2.17 million was actually disbursed.

14. LM Glasfiber A/S (Lunderskov) and LM Glasfiber India Ltd. (Bangalore)

LM Glasfiber (Denmark, LMGD) is a large company that since 1978 has been one of the world's leading suppliers of rotor blades for wind turbine generators. LM Glasfiber (India, LMGI) was established in 1994 as a joint venture by LMGD, NEPC-Micon, another firm in the wind turbine generator industry with Danish roots, and IFU in order to produce fibre glass-reinforced polyester rotor blades. The share capital was INR 126 million, divided as follows: LMGD 52%, IFU 35% and NEPC-Micon 13%. The PS support among other things was for training and technical assistance in India aimed at transferring technology and know-how for production of LM 14.4 metre rotor blades in India. The total PS grant was DKK 1.68 million, of which DKK 1.67 million was disbursed.

15. DSC Communications A/S (Copenhagen) and Indian Telephone Industries Ltd. (Delhi)

DSC Communications (DSC) was established in 1994 after DSC (USA) purchased NKT Elektronik A/S, a large Danish company involved in telecommunication systems. DSC was a leading supplier of fibre-optic transmission and network products in Europe. Indian Telephone Industries (ITI) was a very large public-sector company dominating the Indian market for telecommunication equipment. In 1994 the two partners, together with IFU, set up a joint venture named Fibcom in Gurgaon (near Delhi) with total equity of DKK 19 million, of which ITI provided 40%, DSC 30% and IFU 30%. The purpose of Fibcom was to manufacture

fibre-optic transmission systems, using technology developed by DSC. The objective of the PS support was to modify the existing Synchronous Digital Hierarchy network systems technology to suit Indian conditions. The PS grant was to cover 90% of the costs of this highly technical engineering exercise (with little training or technical assistance involved). The grant was DKK 1.86 million, of which DKK 1.66 million was disbursed.

16. Kampsax Geoplan (Copenhagen) and IL & FS (Mumbai)

In 1994 the partners, together with IFU, formed a joint venture called Kampsax India, Ltd. (KIL), in order to carry out consultancy within the roads, highways and bridges sector. Kampsax was a large Danish engineering firm with the division Kampsax Geoplan engaged in the production of digital maps. IL and FS (Infrastructure Leasing and Financial Services Ltd.) was a large Indian company providing infrastructure services and financing. In 1997 the two partners started planning cooperation on export-oriented photogrammetric map production and expanded the joint venture. Total equity: INR 32.8 million, of which Kampsax provided 26%, IFU 25%, and IL & FS 49%. IL & FS also provided a loan of INR 31.4 million. The PS support was for training in Denmark and India and technical assistance in India. The PS grant was DKK 3.0 million, all disbursed.

17. Maersk Data A/S (Copenhagen) and Crompton Greaves Ltd. (Mumbai)

Maersk Data was a large Danish firm supplying software services to companies within the A.P Møller Group, Denmark's largest business concern, and Crompton Greaves, India's largest privately owned company in electrical engineering. Together with IFU, they established a joint venture called CG Maersk Information Technology Ltd. (CGMIT) in Chennai. Total equity was USD 2.7 million, of which Maersk Data provided 37.5%, Crompton Greaves 37.5% and IFU 25%. The main objective was to transfer know-how from Maersk Data to CGMIT to enable the joint venture to provide high-quality software and IT services, primarily for the international maritime transportation market. The PS support was for training in Denmark and elsewhere. The PS grant was DKK 3.0 million, all disbursed.

18. Dansteel Engineering A/S (Frederiksværk) and R. Kuppuswamy (Delhi)

Dansteel Engineering was a subsidiary of the large Danish Steel Works Ltd. (Det Danske Stålvalseværk), selling know-how for energy saving and environmental improvement in steel plants. It set up a joint venture called Dansteel Engineering India together with R. Kuppuswamy, an experienced manager in the Indian steel

industry who became the Managing Director of the joint venture. Total equity: INR 10 million, of which Dansteel provided 90% and Kuppuswamy 10%. The objective was to provide services within the energy, environment and automation sectors to Indian steel companies. The PS support was for transfer of know-how, training in Denmark and India and technical assistance. The PS grant was DKK 2.4 million, all disbursed.

19. Logimatic A/S (Aalborg) and NIIT Ltd. (Bangalore)

Logimatic was a small Danish consulting engineering firm involved in high-tech consulting and software development with maritime applications. NIIT was a large Indian IT services corporation with a focus on software solutions. The two entered a partnership based on a license agreement for the transfer of know-how concerning IT production control systems for Indian shipyards, which had already been implemented in a number of European shipyards by Logimatic. The PS support was for training in Denmark and India and technical assistance in India. The PS grant was DKK 0.89 million, all disbursed (the partnership had previously received DKK 0.5 million from the PS programme for a start-up facility).

20. Convoy Group Denmark (Aalborg) and NIIT Ltd. (Bangalore)

In continuation of the previous partnership, the Convoy Group of companies was formed by four Danish naval consulting firms, Logimatic A/S, Brix and Kamp A/S Marine, Carl Bro Industry and Marine A/S, and the Danish Maritime Institute. The group formed a joint venture called Convoy India with NIIT and IFU participation. Total equity: INR 6 million, of which the Convoy Group provided 40%, NIIT 40% and IFU 20%. The objective was to provide consulting services concerning shipbuilding to shipyards as well as to other consulting companies. The PS support was for mainly for technical assistance and for on-the-job training in India as well as some training in Denmark. The PS grant was DKK 2.10 million, all disbursed.

21. Rambøll A/S (Copenhagen) and ECC Construction Group (Larsen and Toubroe Ltd., Chennai)

Rambøll is a large Danish engineering consultancy company. ECC Construction Group is a division of Larsen & Toubroe, one of the largest Indian companies (conglomerate) with activities ranging from cement and steel production to IT, originally established by two Danish engineers. Together with IFU, the two partners set up a joint venture called L&T-Rambøll Consulting Engineers Ltd. (LT-Rambøll). Total Equity: USD 1 million, of which Larsen & Toubroe provided 50%, Rambøll 26% and IFU 24%. The objective was to engage in consultancy pertaining to civil construc-

tion, infrastructure, water resource management and environmental services. The PS support was for training in Denmark and particularly technical assistance in India. It came in two rounds, first with a focus on ports, roads and bridges, and later with a focus on water resource management and environmental services. The combined PS grant was DKK 3.0 million, all disbursed.

22. Egmont International Holding A/S (Copenhagen) and Indian Express Newspapers Ltd. (Mumbai)

Egmont, a large Danish company engaged in publishing and other types of media business, had for some time been seeking a suitable local partner in India. Indian Express Newspapers is one of India's largest publishers of newspapers and magazines and has an extensive distribution network. The two formed a joint venture called Indian Express Egmont Publishing for the production and distribution of books and magazines for young people in India. Total equity: INR 10 million, 50% each. The two partners also provided a loan of INR 6.25 million each to the joint venture. The PS support was for training in Denmark and India and for technical assistance. The PS grant was DKK 1.62 million, of which DKK 1.49 million was disbursed.

23. Apollolys Aps (Svendborg) and House of Wax (Bangalore)

Apollolys was a small firm manufacturing candles for the Danish market, which had for some time been owned by an Indian/Danish couple. House of Wax was a small firm established in order to become engaged in the partnership with Apollolys. The objective was to start the manufacture of dipped and moulded candles both for the Danish and the Indian markets. The plan was to establish a joint venture and a buy-back agreement. The PS support was for training in Denmark and India, as well as technical assistance. The PS grant was DKK 0.77 million, of which DKK 0.52 million was disbursed.

The total amount granted by the PS programme to the 23 partnerships was DKK 41.9 million, of which DKK 38.0 was disbursed, equivalent to 91%. In most cases the full amount was disbursed. In those cases where only a part of the grant was disbursed, this reflects the difference between plans and implementation. The following chapter deals with the implementation.

Chapter 4. Assessment of PS support for the partnerships: implementation

The previous chapter provided a brief presentation of the 23 partnerships focusing on the objectives of the partnerships and the PS support. This chapter provides an assessment of the implementation of the main elements of the support, the feasibility studies, the training and technical assistance, and in some cases equipment supply, all funded by the PS programme. It ends with a section on the administration of the programme and another on the cooperation between the PS programme and IFU's programme in India. This is followed by a chapter on the outcome of the programme in terms of the commercial viability and character of the partnerships, as well as in terms of employment, working conditions and wages.

In these two chapters the partnerships (and firms) are anonymized, each being referred to by a randomly allocated letter, since the aim of this study is not to assess the performance of individual partnerships and firms *per se* but only in so far as this throws light on the performance and outcome of the entire PS programme. Moreover, the chapters present more sensitive information about profitability, conflicts between partners etc.

The PS support was mainly provided for training and technical assistance. Often this was preceded by a feasibility study financed by a special PS grant. The project document for each partnership contains an elaborate specification of the planned training, usually in both Denmark and India, and of the technical assistance, which in most cases involved the posting of Danish advisers to the Indian partners or joint ventures. In general the PS programme financed 90% of the training and technical assistance costs. In virtually all cases, both the training and the technical assistance were carried out by staff members of the Danish firms involved, while the trainees were staff members of the Indian firms or joint ventures. Generally the process focused on transfers of technology as well as broader know-how concerning managerial, financial and marketing aspects. In some cases the PS grant also financed production equipment, particularly related to environmental aspects. These aspects are dealt with in the following.

4.1 Feasibility studies

Often the PS programme financed an initial feasibility study. The money for this – up to DKK 250,000 – is not included in the figures concerning PS support in

the previous chapter. It has not been possible to get hold of these studies, and hence they have not been subjected to any systematic assessment. In most cases they were carried out with a Danish consultant in a key role, usually from the Confederation of Danish Industries ('Dansk Industri'), and in some cases from the Danish Federation of Small and Medium Enterprises ('Håndværksrådet'). These two institutions had an important role in identifying Danish partners for the PS programme (not only in India). One of those centrally involved in a number of feasibility studies stated that he viewed himself as a process consultant, whose main task was to ensure that the partners' application for support fulfilled the requirements of the PS programme. He was also involved in searching for potential Danish partners, e.g. through 'road shows' in different parts of Denmark. Generally, the involvement of professional Indian consultants was minimal.

Based on comments from Indian managers as well as former PS programme administrators, it appears that the quality of the feasibility studies varied considerably. In some cases they were very superficial, in others more thorough and professional. With hindsight it seems clear that they tended to be too optimistic in their assessments of marketing potential and commercial viability, and on the whole in not adequately envisaging the many challenges involved in such partnerships. A former staff member of the Danish Embassy criticized the role of the Danish firms, given their vested interests in positive assessments. He claimed that they were in fact able to steer the feasibility studies in their favour, based on their own involvement, as well as the close links between the firms and the Confederation of Danish Industries. It would probably also have been both better and definitely cheaper to accord a more substantial role to Indian consultants. One of the former PS administrators concurred with this view but stated that the PS programme did not want to challenge Danish companies, especially the large ones.

4.2 Training

The amount of training, as well as the contents, varied a great deal from case to case, as did the number of trainers and trainees. Most of the training was organized in modules of 1-4 weeks duration. The number of trainers could be anything between 1 and 10, some carrying out the training in Denmark, some in India.

For obvious cost reasons the number of trainees sent to Denmark was limited, generally between 1 and 5, but in a few cases more. It was primarily higher level staff members who went to Denmark for training, but in a few cases it was actually production work-

ers, in one case (D), as many as 8 (of whom 5 were still employed at the joint venture 6 years later). In another case (B), 5 engineers stayed in Denmark for 2 months or more. In a third case (M), 5 staff went to Denmark for 2-3 weeks training, while 2 stayed for about half a year. In a fourth case (U), a technical manager spent one full year in Denmark. In a fifth case (R), most of the staff – technicians – were sent to Denmark for some training, partly paid by the PS programme, partly by the firm.

In almost all cases, the bulk of the training in Denmark was conducted within the partner firms. In this sense, it was tailor-made training that was provided, serving the partnership objectives. The advantages of this are evident, but the flip side is that, as a result, the training was relatively narrow and instrumental and hence useful in the planned context but less so in the case of future job changes. Nevertheless, it is clear that in many cases the training led to a significant upgrading of the trainee's skills.

In one very special case (A), training of a large number of staff was carried out in India, Copenhagen, New York and Tokyo. This was related to the Danish partner's business interests. The PS programme financed the training of two groups, whereas several more groups were trained at the firm's own expense. The training, mainly in IT and thus of general relevance, was linked to the needs of the Danish partner as well as the joint venture. Danida staff and others warned that this could become a very costly exercise, both because of the high travel costs and especially because of the risk that the trained staff might leave the joint venture to take up more attractive employment opportunities soon after their return. This was in fact what happened. There was thus a very high rate of attrition, and thus the training had to be repeated several times, gradually with more emphasis on the training in India.

In another special case (N) hardly any training was involved. The partnership focused on high-level technology transfers involving primarily packages of documentation that could be handled locally by competent engineers. A few of these, however, made brief visits to Denmark.

Generally, the Indian managers interviewed were satisfied with the training their staff received in Denmark, which was described by words such as 'adequate', 'hands on' and 'good'. In a few cases there was some criticism, e.g. in (M), where the Indian manager said that the six months two members of staff spent in the Danish partner firm had been of 'limited benefit', among other things because Danish was the working language and because of different codes (important in this engineering application). Usually staff members were more than willing to pay a visit overseas and spend some

time in Denmark. But some commented that it was a costly way to acquire the necessary skills. Given the available financial support, the training in Denmark was an attractive option. Had the bill not been covered by Danida, no doubt the training in Denmark would have been more limited.

In India, much larger numbers of staff members were trained by expatriate advisors, usually but not always Danish, who flew in for training sessions of generally 1-2 weeks duration. Virtually all of these were from the partner firms, and as with the training in Denmark the focus was 'hands on'. Most of the training was on-the-job training in the joint ventures or Indian partner firms, tailored to the immediate needs.

In one case (U), a training centre in India was established in rented premises, and extensive training of vast numbers of workers and technicians took place over a period of several years, first three years in these premises, and later in a new factory built according to exact specifications from the Danish partner and serving its needs as well as those of the Indian partner. The training was initially financed by the PS programme, later by the partners themselves. In this case they had established the partnership long before the advent of the PS programme, and thus had developed relatively smooth cooperation. One of the key Danish trainers, who kept coming back, was praised as a 'fantastic trainer'. More recently, most of the expatriate training and inspection has been carried out by technicians from the Danish partner's subsidy in China.

In several cases (e.g. B, O, R and U), there was fairly extensive training in the safety and working environment aspects of the production. One Indian manager referred to the 'typical Danish mind: very safe mind'. In most cases this training was seen as relevant and necessary, but in one case (O) the Indian manager complained about the gap between the high Danish standards and what in his view was relevant and feasible for a small Indian firm. The Danish consultant was viewed as 'the wrong choice'. She advised on improvements to the working environment emulating quasi-Danish standards, and this was seen as impractical and unsustainable in the setting of a small Indian factory working under conditions of fierce price competition. The Indian manager claimed that the bulk of the PS grant went to this advisor – and some environmental equipment – and that this had by and large been a waste of money. Administrators of the PS programme viewed this case in more positive terms, but based on the initial gains rather than the eventual outcome. The Indian manager pointed out that an Indian consultant would have been much more appropriate, since he or she would have known the Indian context, been able to communicate without difficulty with factory staff, and cost only a fraction of the Danish consultant.

In yet another case (E), the project document stipulated the establishment of a training centre, but this was in fact never established. On the whole, the training in this case was rather limited, as was the actual operation. It has to be said that the whole PS grant was not utilized (only 79%).

In most cases, there were discrepancies between the very elaborate training plans spelled out in the project documents and what was actually implemented. The last mentioned (E) is a case in point. In another case (M), the planned environmental training was not carried out. Other cases could be mentioned, but in most of the cases with substantial differences between plans and implementation, the full PS grant was not utilized.

In conclusion, the training both in Denmark and in India appears generally to have been appropriate and sufficient, although there were cases where this was not so. Training has been highly instrumental and context-specific, tailored to the needs of the firms and partnerships. This has served the intended purpose but can, of course, be seen as a drawback from a wider developmental perspective. Nevertheless, the training led to the skills upgrading of a vast number of Indian workers and technicians.

It is evident that both the training of Indian staff in Denmark (not to speak of New York and Tokyo) and the use of expatriate, primarily Danish trainers in India increased the training costs very considerably. Given the objective of the partnerships, to some extent this was unavoidable, but there is no doubt that the use of both modalities would have been more economical if Danida had not footed most of the bill. One of the former administrators of the PS programme commented that 50-60% coverage of the costs instead of 90% would have been more appropriate. This would probably have reduced the amount of training in Denmark as well as the use of Danish trainers in India. To a greater extent the latter could have been replaced by Indian trainers.

4.3 Technical assistance

In most cases, the PS support to the partnerships included an important component of technical assistance, often constituting about half the total grant. Typically, one or several staff members in the Danish partner firm were stationed with the Indian partner or in the joint venture for many months in order to facilitate the technology transfer, but also often to oversee the operation and provide advice on managerial and marketing matters. The number of staff involved and the duration varied. In some

cases it was up to four, each staying for a couple of months. But more generally it was one or two individuals staying from one to three years.

Evidently, the use of technical assistance increased with the size and complexity of the technology transfer and the entire operation. In some small and/or simple cases the amount of technical assistance was limited. Usually the Danish (or in a couple of cases, other expatriate) advisors had a technical background in engineering or similar, but their role was much more than technical, and in some cases the advisors had managerial rather than technical skills. They were seen by both Danish and Indian partners as representatives of the Danish firm who, formally or informally, were monitoring the entire operation. Such a role is challenging for both partners, and its success – or failure – depends on much more than technical skills, notably personal character, openness, commitment, cultural sensitivity and the ability to adapt to a foreign setting, together with more or less similar characteristics on the recipient's side.

According to the Indian managers interviewed, in many cases the technical assistance was well implemented and served its purpose (including D, K, R and U). There were often discrepancies between the elaborate plans in the project documents and what was actually implemented, but by and large this can be seen as constituting natural and necessary course corrections within a long planning horizon. In some cases (L, M, P), parts of the planned technical assistance were not implemented – e.g. on environmental issues (M) – but other parts worked well.

There were, however, also a number of more problematic cases. In one case (G), the expatriate advisor stayed on for 1½ years but was eventually withdrawn by the Danish partner because 'he did not do his job properly', according to the Indian manager. In another (F), it was claimed that the Danish firm sent the 'wrong person', who was technically skilled in machining, whereas the need was in design. Both these cases were also viewed the same way by the Danish PS programme administrator in charge at that time. Similarly, in one case (Q), a Danish advisor stayed for six months but was not judged to be the right person because his skills were more on the management than the technical side. He was supposed to be a link to the Danish partner but was in fact redundant, according to the Indian manager.

In one joint venture (I), two advisors from the Danish company served as head of production (one after the other) for three years. There was a need for someone to set up standards, specifications and infrastructure in order to complete the technology transfer. There were also several Danish short-term advisors who were judged by

the Indian manager to provide some useful training but also to 'lack accountability'. On the whole he questioned the extensive use of costly Danish technical assistance. This was also taken up as a 'lesson learnt' in the Danish Embassy's Project Completion Sheet concerning this partnership: 'It is important to have a clear definition of responsibility between the Indian joint venture and the company in Denmark. The company should look into the consultancy business in India, as it turned out to be more efficient and cheaper to use Indian consultants for maintenance of the machines, instead of using a foreign company as originally planned'.

This brief overview reveals the problems involved in the technical assistance component of the PS support to the partnerships. One of the PS programme administrators gave the following assessment: 'The technical assistance depended entirely on the persons. In 50% of the cases they were OK, in the other 50% there were problems – with qualifications, commitment, etc. But it was almost a religion only to use Danish advisors. More use of Indian consultants would have been both relevant and more cost effective'.

For the Danish partner firms, it was of course tempting to use the firm's own staff as much as possible. It was also natural and in most cases even necessary to involve the firm's staff, since the main objective of the partnerships was to transfer firm-specific technology and broader know-how. As already indicated, there were also a number of cases, probably around half of the total, where the technical assistance functioned reasonably well and served its purpose. The transfer of technology and broader know-how was successfully accomplished. To some extent, this also happened in some of the more problematic cases. Generally, the Danish advisors were technically qualified. Nevertheless, it is clear that the amount of technical assistance with Danish advisors was overblown. The fact that the PS programme financed 90% of the expenses obviously contributed to this, although there were cases where some of the bigger companies especially extended the stay of Danish advisors at their own expense. But in retrospect it is evident that Indian consultants could have taken care of a substantial part of the technical assistance. This would not only have reduced the costs dramatically, but in some cases improved the technical services rendered due to their familiarity with the context and their Indian language ability.

The consequences of using almost exclusively Danish advisors had further ramifications. Some Indian managers pointed out that it was difficult to bridge the cultural gap between some of the Danish advisors and their Indian counterparts.

In most cases the Danish advisors had never before been posted to such alien and demanding settings, and they received little or no training in order to prepare them for these challenging tasks. Moreover, the character of their job required a range of skills beyond technical know-how, notably those linked to their personality, vital for their interaction with their counterparts, whose own personality was equally important for the outcome. It is no wonder, then, that there were a number of cases where the performance was inadequate and the results disappointing. But the Danish partner firms ought to have ensured a better selection and more careful preparation of the advisors, and the PS programme could have made some demands in this respect.

In conclusion, it should be stressed that the use of a strong element of Danish technical assistance is both natural and necessary in partnerships aiming at the transfer of firm-specific technology and know-how. However, the easy availability of funding in combination with Danish partner-firm preferences led to exaggerated use of long-term Danish advisors, including for parts of the task that could have been handled well – in some cases better – by Indian consultants at a fraction of the cost of the Danish advisors. The fact that there were serious problems with the technical assistance in about half of the partnerships studied stresses that this modality should have been used with much greater care by both the firms involved and the PS programme itself.

4.4 Equipment supply

The PS programme only financed the supply of equipment on a limited scale. Generally it was seen as the partners' own responsibility to procure the necessary machinery and other equipment, whether from Denmark or India or elsewhere. However, in three cases substantial parts of the PS grant were used to acquire equipment related to the working environment and/or exterior environment. This was done in agreement with the important cross-cutting concern for the environment in Danish development cooperation. As with training and technical assistance, the PS programme financed 90% of the costs.

In spite of the PS programme's desire to support partnerships with an environmental dimension, there were only a very few small initiatives aimed at improving the external environment among the partnerships under study, and by and large these did not have any significant results. The few more substantial contributions had to do with the working environment.

In all three cases, the focus was primarily on the working environment in new factory buildings, in particular dust extraction and ventilation systems. In one case (R), where this was needed owing to the technical requirements of the production, the factory was provided with tiles on the walls, a granite floor and a complete air conditioning system. In another case (B), besides ventilation and dust extraction systems, required because of the character of the production, some lifting gear and protection equipment was provided. In both cases the equipment functioned well. In both these joint ventures, soon after the PS support was terminated, the Danish partner bought out the Indian partner so that the firms became 100% owned subsidiaries.

The third case (O) was more controversial. In this case the Indian partner was a small family-owned firm which ended up buying out the Danish partner. The PS support (given in two rounds) was for a range of activities aimed at improving the working environment, particularly reducing dust and noise, and obtaining ISO 14001 Certification, partly in order to become a 'model factory' for similar factories in the area. The PS support was for both training and different types of equipment, including dust chambers, ear muffs, guards on machines and sanitary toilets.

The ISO certification was never achieved, but otherwise most of the planned activities were implemented. However, assessments of the outcome diverged. In the Danish embassy's Project Completion Sheet (see section 4.5) the partnership was judged to have fulfilled its objectives 'to a high degree', and the 'lessons learnt' section reads as follows: 'The project has been successfully implemented mainly due to extremely good work done by a Danish consultant and the high commitment by the management. But also because the employees have been involved in the preparation of improvements of the working environment'.

In contrast, the Indian manager had little positive to say about the entire experience. His negative view of the Danish consultant has been quoted above in Section 4.2. He acknowledged that there had been some improvements in the working environment ('feel good environment'), but the ear muffs had been discarded long ago and the toilets had soon broken down. On the whole he claimed that the improvements had not benefited the firm but had rather added to its costs. He saw the PS support as an attempt to introduce Danish standards in an Indian context – a small firm with largely unskilled manual workers, struggling to survive under fierce competition – where they were unwarranted and unsustainable.

4.5 Administration of the PS programme

In the first phase of the PS programme, where the programme covered only South India, it was administered from an office in Bangalore headed by a Danish PS coordinator. In the second phase the administration was moved to the Danish embassy in Delhi, where a new Danish PS coordinator ('Counsellor') was integrated into the embassy's staff. He served until 1999 and was subsequently posted by Danida as PS coordinator first to Vietnam and later to Egypt. The office in Bangalore continued until 1999, now with an Indian staff member ('Project Advisor') looking after the partnerships in South India. He was then transferred to Bangladesh, where he served as PS coordinator in the Danish embassy for a number of years.

In April 1998, a new PS branch office was opened in Pune (Poona) near Mumbai as a reflection of the perceived potential in that region, but it only functioned for a few months. In May 1998 India tested its nuclear weapons, and this led to the Danish government's decision to phase out the PS programme as part of a long-term plan for phasing out all development cooperation with India. Thus there was no need for the Pune office, and the PS programme as a whole began a gradual phasing out which lasted until the end of 2002. In this last phase, the PS coordination in the embassy was taken care of first by a Danish, and subsequently by an Indian staff member. Generally, the Danish as well as the Indian staff members were both able and dedicated to their task.

The turbulence surrounding the Danish decision to phase out the PS programme evidently had a negative impact on the programme, including its administration. In a sense, this was compounded by the efforts of the Danish government to negotiate a special 'Lex India' with the Indian government in 2000-2001, which included a continuation of the PS programme. The negotiations took a long time and thus introduced an extra element of uncertainty, and in the end the Indian government declined to accept the terms of the Danish offer. Nevertheless, all the partnerships that had been granted support before the decision to phase out the programme were implemented, and a number of new partnerships underway were in fact granted support in the second half of 1998. Moreover, those that were subsequently delayed – for reasons not necessarily linked to the turbulence – were allowed to be implemented until the end of 2002. But the changes of staff and the uncertainty did weaken the programme's administration to a certain extent.

The PS programme was closely monitored by the administration, which produced status reports on either a monthly or quarterly basis (in different periods) as well as

annual reports. These reports dealt with the progress of the partnerships and the use of the PS support and identified risks and problems. Among the recurrent problems were the delays that happened. Usually the PS support for the partnerships was planned to be of between six months and two years duration. But in practice the implementation of PS support for most of the partnerships took longer than planned, due to problems between the partners, bureaucratic obstacles or challenges linked to the personnel component. In some cases the delays went up to a couple of years. The PS programme ought to have applied a more realistic planning horizon, but it developed a lot of flexibility in handling these problems.

Each PS support grant was based on a project document which outlined the salient features of the partnership, described the project, including the market potential, specified the main components of the support, and presented the budget, which in most cases funded 90% of the costs. These documents were quite comprehensive and professional, but of course they relied to a large degree on information provided by the partners, especially the Danish partner. A standard entry headed 'main risks' was in most cases superficially addressed in just one or two sentences, mostly just stating that there was a commercial risk. In only three cases (G, L, Q) was there a slightly more elaborate risk assessment taking into account a range of factors. In one case (M), the risk assessment simply said: 'There is no main risk with the project!' The next chapter – on the outcome – will demonstrate that the risks were in many cases underestimated, and this can also be inferred from previous sections of this chapter (especially Section 4.3 on technical assistance).

When the PS support for a partnership was terminated, a Project Completion Sheet (PCS) was drawn up in the Danish embassy and approved and signed by the ambassador or the head of the development cooperation section. This one-page document assessed the fulfilment of the PS support objectives – 'to a low degree', 'acceptable' or 'to a high degree' – and specified 'lessons learnt' in a few sentences. For the purpose of this study these documents were obviously important, but they proved difficult to trace. In spite of considerable efforts, as well as substantial assistance from both the embassy in Delhi and the Ministry of Foreign Affairs in Copenhagen, it was impossible to get hold of more than 14 of the 23 PCS's relevant to this study. It was also impossible to find out whether the remaining documents had ever been written or whether they had somehow disappeared from the archives.

The 14 PCS's available provided the following assessments of the fulfilment of objectives: 5 'to a high degree', 7 'acceptable' and 2 'to a low degree'. In

several cases the assessments carried out by the present study are more critical, as the next chapter will demonstrate. A particularly striking example of differences in assessment has already been provided in the previous section (4.4). Some of the embassy's assessments – substantiated under 'lessons learnt' – contained an element of wishful thinking about the commercial viability, but it has to be borne in mind that the assessments were carried out soon after the termination of the PS support, when the commercial prospects were naturally uncertain.

To sum up, the administration of the PS programme in India was carried out by able and dedicated staff members. Their task was made more difficult by the decision to phase out the programme at a time when it had really begun to make headway, as well as the subsequent vacillation around this decision. There were also some weaknesses in the administration, including unrealistic time horizons and inadequate risk assessments.

Some weaknesses had more to do with the guidelines for the PS programme and the way it was administered in the Ministry of Foreign Affairs in Copenhagen than with its administration in India. Most important among these was the primary orientation towards the interests of the Danish partner, which has also been revealed in the previous sections of this chapter. The initiative to establish a partnership almost invariably came from the Danish partner and/or the Danish embassy, hardly ever from the Indian partner. Moreover, the chief administrator responsible for the programme in the Ministry had moved directly from the Confederation of Danish Industries to this post, and this had had a bearing on the administration. One of the key Danish informants plainly stated that this transfer ought to have been a 'no go'. One of the PS coordinators in India conceded that in the early years the PS programme in India focused more on promoting Danish companies' interests than on Indian companies, but argued that later things became more balanced. Another stated that the programme remained driven by Danish interests: 'Danish firms' desires were matched; there were few examples of matching Indian firms' wishes'.

It can be seen as a weakness that there was no clear strategy for the PS programme. In the first phase, the programme was restricted to the agro- and food-industry in the two south Indian states of Karnataka and Tamil Nadu. After the limited response and results in this phase, it was decided to extend the programme to the entire country and to all sectors. In a sense it became a free-for-all.

The so-called 'strategy' (already quoted in Chapter 1) was just the following: 'The strategy of the PSD programme in India is to induce Danish companies, through the initial assistance by PSD offices and the supporting financial instruments, to provide technology transfer and relevant training to Indian companies as part of a long-term collaboration, which is self-sustainable on a commercial basis after the PSD programme support is withdrawn. Priority has been given to geographical areas around PSD and IFU offices where a close contact to the Indian companies can be obtained, and to industrial sectors where Danish companies have strong and well-established technologies and contribute to the development of India. A high priority has been accorded to assistance for improvement of working and external environments of the existing and new projects'.

For pragmatic reasons it made sense to give priority to geographical areas around PSD and IFU offices, i.e. Delhi, Bangalore and Chennai (and for a short while Pune-Mumbai). Nevertheless, the programme was spread over twelve different states, which obviously made monitoring more difficult. It also covered a range of very different sectors and a diversity of partnerships, as can clearly be seen from Table 1 in Chapter 1, as well as from the description of the partnerships in Chapter 3. The latter chapter also demonstrates that the partnerships in the programme in India were a mixture of large and small firms on both the Danish and Indian sides. In comparison with Danida's PS programmes in other countries, large Danish companies played a much greater role in the India programme. This, of course, was a reflection of these companies' interest in the huge and fairly dynamic Indian market, as well as the sourcing potential in partners with a highly skilled and cheap labour force. But it also reflected the way the programme was administered, with considerable emphasis on involving those companies.

Lastly, a key administrative provision in the programme was the principle that it covered, generally, 90% of the training and technical assistance requirements, as well as in some cases equipment supply and feasibility studies. The advantage of this was that it encouraged all interested Danish firms to become involved in a partnership without running more than minimal risks. But the drawback was that there was too little at stake for the firms; the availability of 'easy money' tempted them to opt for modalities that were not cost-effective, including extensive use of costly Danish personnel. In some cases, the Danish firms embarked on ventures with too little commitment and thus a high risk of failure. One of the former PS coordinators stated that 50-60% funding would have been more appropriate.

4.6 Cooperation between IFU and the PS programme

The Danish Industrialisation Fund for Developing Countries (IFU) has had a presence in India since the early 1990s, i.e. before the PS programme was started. IFU's mandate is 'to promote economic activity in developing countries by promoting investments in these countries in collaboration with Danish trade and industry' (IFU Annual Report 2005, p. 6). IFU 'provides advisory services, share capital participation, loans and guarantees on commercial terms for investments in production or service companies in developing countries' (ibid.).

In view of the interrelated objectives, it was obvious that the PS programme should establish cooperation with IFU in India. Throughout the existence of the PS programme there was in fact close collaboration between the two. IFU had an office in Madras/Chennai with a Danish head in the 1990s. Around 2000 the office was shifted to Delhi, and later the head ('Resident Representative') of IFU in India was an Indian woman who received part of her professional training in Denmark. Regular coordinating meetings between the IFU heads and the PS coordinators were held in the Danish embassy. An Indian consultant was also involved in these efforts.

The previous chapter has shown that many of the PS-supported partnerships in fact also had IFU involvement, usually in the form of share capital. Of the 23 partnerships, IFU has been involved in 11. In some cases, IFU came first and helped establish joint ventures which subsequently received PS support. In other cases, IFU and the PS programme worked hand in hand, the PS programme typically funding training and technical assistance and IFU providing share capital. In yet other cases, IFU entered as partner in joint ventures after the PS support had ended.

Both the PS coordinators and the IFU administrators saw the collaboration as mutually beneficial. One of IFU's key informants said: 'It was ideal for IFU. The PS programme paved the way for IFU which could contribute to upgrading the partnership to a joint venture. Moreover, the PS programme assisted IFU in getting hold of small and medium-sized Danish firms in addition to the large firms with which IFU was already engaged. The premature closure of the PS programme was a real set-back for IFU'.

It should be added that, as things turned out, IFU only became involved with very few small and middle-sized firms. In this context IFU was mainly involved with large firms, whereas small and medium-sized firms generally play a greater role in IFU's programmes.

IFU's share of the joint ventures' share capital ranged from 20% to 35%, and was in no case larger than the Danish partner's share. This meant that in virtually all cases the combined share of IFU and the Danish partner was more than half of the total, usually substantially more. In one case, the combined share of IFU and the Danish partner added up to exactly 50%, and this of course was no coincidence, nor was another case, where the combined share added up to 51%.

Based on its capital share, IFU had a representative on the Board of the joint ventures. The degree of commitment varied from case to case and over the years. IFU saw itself as a neutral partner, inclined towards neither the Danish nor the Indian partner, and interviews with Indian managers demonstrated that there were certainly cases where IFU acted in this way. One manager said: 'IFU has been very constructive, playing it professionally. When they pulled out, they offered their shares to both parties'.

However, there were more cases where the Indian managers saw IFU as part of the 'Danish' side. One said: 'IFU had always been supporting the Danish partner'. Another said: 'IFU was more inclined towards the Danish firm'. A third said: 'The IFU representative was very active on the Board. He understood IFU's role as part of the Danish side'.

Thus, in many cases there was a perception among the Indian managers that IFU was somehow part of the Danish side. This was not necessarily based on dissatisfaction with the actual role of the IFU Board member.

To conclude, it is clear that IFU and the PS programme complemented each other and produced an element of synergy for the partnerships. IFU provided share capital while the PS programme funded training and technical assistance. In this way, those partnerships in which both were involved received the benefit of two types of official support. No doubt this contributed to the commercial viability of the successful partnerships, most of which involved large Danish companies.

A more problematic aspect of IFU's engagement alongside that of the PS programme was that it corroborated the perception among Indian partners that both types of support were biased in favour of the Danish partner's interests.

Chapter 5. Assessment of PS support for the partnerships: outcome

The overarching objective of the PS programme was to support partnerships between Danish and Indian firms in such a way that they became commercially viable. At the same time, it was required that the Indian partner received substantial benefits from the partnership. Linked to this, there was a wish to create employment and contribute to environmental improvements, including working environments. The latter has been dealt with in Section 4.4 of the previous chapter.

5.1 Commercial viability and character of the partnerships

It is relatively straightforward to assess the commercial viability of the partnerships supported by the PS programme. It is more difficult to specify the role of the programme in bringing about commercial viability, which obviously depends on a range of other factors, particularly the markets, as well as the activities of – and cooperation between – the firms involved in the partnership. But the previous section of this chapter has tried to assess the most important modalities. In most cases, it is clear that activities funded by the PS programme played an important role, and thus the programme can take (part of the) credit for most of those cases where the partnerships became commercially viable. On the other hand, the most important objective of the programme was not achieved in those cases that did not succeed in this respect. This is not the same as saying that in those cases the programme was simply a waste of money: for instance, some of the training provided could have been useful in other contexts. But, building on the programme's own philosophy, in those cases it would obviously have been better to support partnerships with better prospects of commercial viability. However, a programme of this nature must necessarily take some risks.

The following is a more detailed assessment of the commercial viability of the partnerships and a discussion of some of the reasons for success or failure in that respect. Table 3 provides a simple overview.

Table 3.
Commercial viability of sample partnerships

Commercial viability	Partnerships	Total
Yes	B, D, E, G, I, K, M, N, R, U	10
No	A, C, F, H, J, L, O, P, Q, S, T, V, W	13

The table shows that ten partnerships were judged to have been commercially viable, whereas thirteen partnerships did not succeed in this respect. This is substantiated in the following.

In a number of cases, it was possible to obtain a more detailed assessment of the profitability of the joint ventures that were at the core of most partnerships. These are the eleven cases in which the Industrialization Fund for Developing Countries (IFU) had invested money along with the partner firms. The following table is based on data from IFU.

Table 4.
Profitability of joint ventures with IFU investment

Firms	1996	1997	1998	1999	2000	2001	2002	2003	2004
A	D	D	D						
B	S	S	P	P	P	P			
D					P	P	P	P	P
F	D	D	S	D					
G						D	D	P	
I	S	S	S	S	S	S	S	P	P
L				D	D	D	D	D	P
M			S	S	S	S	S	S	
N	D	D	P	P	P	P	P	P	P
O	MS	MS	MS	MS	D	D	D		
S				D	D	D	D		

D = Deficit

S = Surplus

MS = Marginal Surplus

P = Very Profitable

The data are only available for the periods where IFU was involved in each case. The table confirms and deepens the mixed results revealed in the previous table. It should be borne in mind that Table 4 only includes 5 (A, F, L, O and S) of the 13 cases where the partnerships had not been commercially viable as against 6 of the 10 successful cases. This is a reflection of the fact that in many cases IFU came in after PS support had been granted and thus was able to avoid investing in the most dubious partnerships. But even so, it can be seen that there are few joint ventures that became very profitable, actually only 4 out of 11 (B, D, I and N). Two cases (G, L) that were profitable in one year after several years of deficit are not included in this category. In addition there is one joint venture (M) which has consistently produced a surplus but without ever being very profitable.

The following gives more detailed comments on the two main categories, first those that were commercially viable, then those that were not.

5.1.1 Commercially viable partnerships

Some of the commercially viable partnerships existed prior to receiving the PS support. This is true of the four most profitable partnerships listed above. Three of these (B, I, N) had formed joint ventures with IFU participation.

In one case (B), the PS support played an important role in upgrading the product, which was relatively new in an Indian market that was gradually became more booming. The Indian partner was a customer as well as a junior partner. It was bought out in 2002, as was IFU, so that the joint venture was transformed into a 100%-owned subsidiary of the Danish firm. By 2006 the company had grown tremendously after a slow start, had exported a small part of its production overseas, and was planning the establishment of another factory with greater capacity. The manager said: 'The PS support played the role of catalyst and speeded up the development. But the amount was nominal in relation to the scale of operation, so it would probably have happened anyway even without the PS support'.

In another case (I), the PS support was instrumental in transferring technology for high-tech products and services that had not previously been produced by the private sector in India. Initially, the products were marketed in India, but later most were sold in the international market via the Danish partner, and this became increasingly profitable. However, this raised the issue of price-setting between the joint venture and the Danish partner, which in turn was decisive for the division of the profits between the two. The Indian partner felt squeezed, and the manager of this firm

claimed that the Danish partner never allowed the joint venture to become truly independent and receive its fair share of the profits. This issue was settled after the Danish partner had been taken over by another Danish company, which afterwards bought out both the Indian partner and IFU. Thus the joint venture was transformed into a 100% Danish-owned subsidiary. This partnership would probably not have been established without the PS and IFU support since the original Danish partner was in financial difficulties.

A third joint venture (N), also in a high-tech area, used the PS support for the technological adaptation of products that were new in the Indian market. Before, the joint venture had incurred losses, but afterwards it became very profitable. The new technology functioned well but was costly. For many years the firm focused only on the Indian market, but by 2006 about 50% of production was going for export. Around 2002 the Danish partner was acquired by a large American company. The joint venture ended in 2006 when an Indian company bought out all the partners (including IFU). The joint venture was thus transformed into a 100% Indian-owned company. This partnership faced many challenges along the way, including several changes of ownership on the 'Danish' (and American) side and financial difficulties on the Indian side, but eventually it succeeded and was taken over by a new Indian partner.

In yet another case (D), the PS programme supported the introduction of a new product range, for which the joint venture gradually captured 25-30% of the Indian market. This became very profitable. The Indian manager commended the Danish partner for its sincere commitment (and contrasted this with an American partner in another joint venture). The Indian partner was well consolidated from the outset, in fact more so than the Danish partner. In 2006 the Indian partner acquired a 50% stake in the Danish partner firm, and by 2008 it became the 100% owner of the Danish firm! This development was quite unprecedented and was certainly not envisaged as a possible outcome of the PS programme. But in this case, not only was commercial viability ensured; the Indian partner was indeed strengthened as a result of the partnership – and it was a 'friendly take-over' of the Danish partner.

A fifth joint venture with IFU involvement (M) received PS support for the training of engineers in both Denmark and India. Although the Indian market has been difficult and highly price-sensitive, the firm has succeeded in producing a surplus every year and thus proved to be commercially viable. After difficult years in 2002-03 the firm became more profitable, but it was not able to grow to the size its partners had

hoped for. In 2004 IFU sold its shares to the Danish partner. The joint venture has continued to have close relations to the Danish partner, and its limited international business is exclusively conducted through this firm. The Indian partner is also a customer. While the partnership has had the Danish partner very much in the driver's seat, it would probably not have happened at all without the PS support.

But it was not only joint ventures (with IFU participation) that became commercially successful. One of the most successful partnerships (U) involved PS support for staff training and technical upgrading for the production of a consumer product exclusively for export. The very close cooperation continued after the programme came to an end, with frequent visits by representatives of the Danish partner firm. The cooperation included continuous upgrading of the production and training of the staff, now financed by the partners themselves. By 2006 the Indian partner had grown tremendously, built several new factories and was exporting to a range of international firms, including about 40% of its total exports to the Danish partner firm. The PS programme had played an important role in laying the foundation for the subsequent expansion, and it contributed to the improved commercial viability and strengthening of the Indian partner. However, it is likely that all this would have happened even in the absence of PS support.

A similar but much smaller partnership (K) was based on a license agreement. Here too the PS support was used for the technical upgrading of a well-known product. This became the core product in the Indian partner's expansion, and by 2006 the firm had more than doubled its staff and had captured 40-45% of the Indian market for this product due to quality and in spite of a higher price. In contrast, the Danish partner closed down in 2001 after facing financial difficulties. In this case the partnership and the PS support were of vital importance for the Indian partner's success, and in recognition of this it actually changed its name to that of the (now extinguished) Danish partner.

In another partnership (E) there were plans for cooperation with two Indian partners, one on the technical side and one on the marketing side. However, the former never became involved and the latter only marginally. But a 100%-owned subsidiary of the Danish company was established, a factory built and production started, based on technology transferred from another overseas subsidiary. The market has been slow – partly because of availability of cheaper Indian alternatives – and sales have been far below expectations. By 2006, however, sales had increased considerably, and it appeared that the venture had finally become commercially

viable. But the Indian partner was dissatisfied, as expressed in the following quotation: 'Danida backs up Danish firms to set up business. They just want an Indian partner to sign. Once in a quarter, I had to sign the accounts. For this we would get a token amount.'

A joint venture (R) without IFU participation received PS support for the establishment of a new factory and staff training. The products faced a difficult market in India, and losses were incurred in the early years. But afterwards, the products were indigenized and the joint venture then became profitable and was able to expand considerably. The Indian partner was bought out in 2003, so that the joint venture was turned into a 100%-owned subsidiary of the Danish partner. The manager of the firm said: 'It is likely that the things would have been done even without the PS money, but maybe not to the same high level.'

Lastly, another joint venture (G) that was initially formed without IFU participation received PS support for the introduction of a range of new consumer products in India. As soon as the PS support ended, the Indian partner pulled out of the joint venture, which was transformed into a 100%-owned subsidiary of the Danish company. Subsequently IFU became involved, but this did not last long. The firm was struggling to become commercially viable and succeeded in producing a profit in one year. But then the Danish company decided to phase out all its engagements in Asia. However, an Indian firm, owned by a trust of the employees, was able to take the firm over almost for free and continue some of its operations, as well as introducing new business areas. This firm eventually became commercially viable.

To sum up, Table 5 presents the most important reasons for commercial viability. This is obviously a crude simplification of what in practice is determined by the complex interplay of a range of factors, always including quality and price, but also such factors as the appropriateness of the training and technical assistance supported by the PS programme (dealt with in Chapter 4).

5.1.2 Partnerships that did not become commercially viable

Five of the PS supported partnerships in which IFU also participated did not become commercially viable. In one case (A), the joint venture had difficulties in competing and in retaining its staff in a very dynamic market. It provided services to the Danish partner firm on favourable terms but was unable to market its services on any significant scale to other customers. Competition clauses imposed by the Danish partner limited

Table 5.
Commercially viable partnerships: main reasons

Partnership	Main reasons for commercial viability
B	Successful upgrading, gradually booming market and a little export
I	New high-tech technology, emerging Indian market and later export (low prices)
N	New high-tech technology, emerging Indian market and later export (low prices)
D	New product range, good quality, large market
M	Successful upgrading, difficult market, but gradually improving
U	Successful upgrading, low prices, 100% export to booming international market
K	New product range, good quality, large market
E	New product, good quality, slow market, eventually improving
R	New product range, good quality, difficult market but gradually improving
G	New product range, difficult market, improving after adaptation in product range

the potential. As a consequence, the joint venture incurred deficits. After a few years IFU pulled out. In 2005 the Indian partner was bought out so that the joint venture became a 100%-owned subsidiary of the Danish company. But this did not last long, since by 2006 the firm had been taken over by a large American company. To some extent the subsidiary of this company in India continued servicing the former Danish partner, but it became commercially viable only after both the Indian and the Danish partner had exited. A key person in the partnership said: 'The Danish partner would have established the partnership even without the PS support'.

In another case (F), there were many problems with the collaboration between the two partners. The Danish technical advisor did not function well, and the technology transfer was only partly implemented. Moreover, the products with Danish technology had difficulties in competing in the market, and the joint venture had deficits in most years. There were also disagreements about management issues, reflecting a cultural gap. Finally, after some time the two partners lost faith in each other so that the partnership broke down. After this, the Danish partner and IFU both pulled out of the joint venture.

A third joint venture (L) similarly had a number of problems with the technology transfer and serious delays, but in the end it did succeed in producing a complex capital good based on the new technology. However, the use of this new product introduced new technical challenges, and six years after the completion of the PS support only one unit had been sold. As a consequence, the joint venture had been running losses in all years except one. By 2006 there were a couple of new orders in the pipeline, but still a lot of uncertainty. On the character of the partnership a Danish key informant said: 'The Indian partner was just a local agent. From the start the intention was that the Danish partner should take over the whole thing, but it was difficult to get the Indian authorities' permission for this.'

In the fourth case (O), the PS support had been mainly intended for improvements to the working environment. This highly controversial case has been dealt with in more detail in Section 4.4. In the view of the Indian manager, many of these improvements were unsustainable and had become more of a burden for the firm. Moreover, the joint venture had difficulties in selling its standard product in the international market at prices marked by stiff competition. It did not help that the firm had to sell its products exclusively through the Danish partner, which added to the cost. For some years the firm produced a marginal surplus but later incurred deficits. In 2003 IFU pulled out and the Danish partner sold its share to the Indian partner. By 2006 the Indian partner had survived and the firm had been split into two. Its survival, however, had little to do with the PS support.

The fifth case (S) with IFU involvement aimed to introduce tried and tested technology into a new business area not hitherto covered by the Indian partner. This proved to be more difficult than anticipated. In spite of considerable efforts, the joint venture was unable to secure any significant orders for several years. Finally, one large order was received and worked on for about a year. But conflicting views between the firm and the customer on what constituted an appropriate standard, a Danish-inspired one or rather an Indian one, led to a breakdown of the contract. Sometime after this the joint venture went into liquidation, having produced losses every year.

The eight other partnerships that did not become commercially viable included five joint ventures (only two materialized) and three partnerships based on other forms of cooperation (buy-back, license, technical). One joint venture (Q) had the objective of providing services in a sector in India that had difficulties around the turn of the century. Hence it was a difficult market, and the firm

only succeeded in receiving three contracts, only one of which was fully paid. Moreover, the Danish partner was in financial trouble and wound up its operations around 2000. Thus the partnership never became commercially viable and came to an abrupt end. In the Project Completion Sheet, under 'lessons learnt', the Danish embassy wrote: 'This is a good example of a partnership within the grey zone where the Indian partner has very little to contribute and is a minority shareholder'.

In another case (W), a joint venture was set up in order to provide services in an area of emerging importance. In spite of good prospects and a promising start, it proved difficult to obtain orders, and the partnership never became commercially viable. After some time the Indian partner pulled out, and eventually the Danish partner also gave up.

A third partnership (C) aimed at the establishment of a joint venture in a dynamic sector, but after prolonged negotiations between the Danish and the Indian partner, the partnership broke down and the joint venture did not come into existence. The main issue was disagreement over price relations in the dealings between the two partners. The Danish partner subsequently established cooperation with another Indian partner, but this was not supported by the PS programme.

In yet another case (V), the partnership had the objective of transferring production technology and know-how for a consumer product. The aim was to establish a joint venture, but this never materialized. A production location was set up, machines installed and some initial production took place. One shipment of the product was exported to Denmark, but there were problems with the quality. The trust between the partners disappeared and the partnership broke down in 2000, before the end of the PS support. Apparently the partners had initially agreed that one of them would eventually take over the firm but then later disagreed over the terms. A court case between the two partners ensued, which was still pending in 2006.

Finally, in one case (T), the transfer of technology was successfully implemented and for a couple of years the Indian partner exported part of its production to the Danish partner, based on a buy-back agreement. But the plans to move to a joint venture were not accomplished. The Indian partner faced continuous financial and organizational problems. In 2003 the Indian partner's factory was closed down

and sealed by the authorities due to tax arrears. In 2004 the Danish partner went bankrupt.

The remaining three cases were based on other forms of cooperation than joint ventures (license, technical, buy-back agreements). In one case (P), the technology transfer for a consumer product was achieved and a number of units produced for the Indian market. But the product had difficulty in competing with similar products based on different technologies, and the quality was not good enough for export. Hence production was given up after some time, and the partnership ended without becoming commercially viable.

In another case (J), the partnership was between well-established partners in both Denmark and India. The technology transfer produced limited and ephemeral results in the Indian partner firm, and nothing came of the plans to market this technology to other firms in India or elsewhere. A key problem in this respect was that the technology was tailored to the immediate needs of the Indian partner. Both partners remained commercially successful afterwards, but this had little to do with their brief partnership or the PS support.

Lastly, in one case (H), the know-how was transferred from the Danish to the Indian partner, and the partners cooperated well. But in spite of some initial progress, it proved difficult to find orders in a business area not hitherto covered by the Indian partner. Thus the partnership did not become commercially viable.

To sum up, Table 6 presents the main reasons for commercial failure. Like Table 5, this is a crude simplification of what in practice was determined by the complex interplay of a range of factors, including quality and price, but also such factors as (a lack of) trust between the partners and the appropriateness of the training and technical assistance supported by the PS programme.

5.1.3 The character of the partnerships

From the two previous sections, it emerges quite clearly that the character and evolution of the partnerships between Danish and Indian firms were of decisive importance for the outcome. This section will take up a few important partnership issues at a more general level.

Of the 23 partnerships studied, no less than 17 were intended to become joint ventures. In three cases these did not materialize for various reasons, but 14 partnerships

Table 6.
Partnerships that failed commercially: main reasons

Partnership	Main reasons for commercial failure
A	Not competitive in dynamic market, servicing of Danish partner too favourable
F	Only partial technology transfer, lack of trust, partnership broke down
L	Complex technology transfer, technical problems, difficult market
O	Exports only via Danish partner; unsustainable working environment
S	Difficult market for advanced technology, new to Indian partner
Q	Difficult market for advanced technology, Danish partner liquidated
W	Difficult market in area of emerging importance
C	Partnership broke down, mainly over price relations between the partners
V	Lack of trust, partnership broke down, followed by court case
T	Initial production and export, but both partners then went into liquidation
P	Product unable to compete with similar products based on other technologies
J	Technology tailored for Indian partner, not suited for the wider market
H	Difficult market for advanced technology in area not known by Indian partner

actually took the form of joint ventures. As previously mentioned, 11 of these also had IFU involvement. In a sense the joint venture was seen as the ideal partnership, since it committed both partners to work seriously together for the common cause. The six partnerships that were not intended to be joint ventures involved either license or buy-back agreements or some other form of technical cooperation. This entailed less commitment to the partnership – at least in principle – but not necessarily fewer results.

The amounts of money committed as share capital were not very large, below 20 million INR in six cases and above 100 million INR (or equivalent in DKK or USD) in only four cases. The exact figures can be seen in the descriptions of each partnership in Chapter 3, which also give details about the division of shares between the Danish and Indian partner and IFU. In most cases the shares were split more or less equally between the two firms, underlining the equality in commitment. IFU had between 20% and 35% of the shares in those cases where it was involved. In three cases the

Danish partner had a much larger share than the Indian partner. In two of these cases the joint venture was subsequently transformed into a Danish subsidiary; the third came to an abrupt end.

Seven of the ten partnerships that became commercially viable had the form of joint ventures, but it is noteworthy that no less than four of these afterwards became 100% subsidiaries of a Danish partner (in one case this was reversed later when the Danish company exited from all its businesses in Asia). A fifth was in fact established right away as a Danish subsidiary, although a partner was nominally involved.

This outcome is not in line with the main objective of the programme, which focuses on 'long-term collaboration' with Indian companies. The PS programme did not aim to support the establishment of subsidiaries of Danish firms, and an Indian partner was a requirement (whereas IFU had no such requirement). Thus it is a matter of concern that half of the commercially successful partnerships evolved in this way and ended up as subsidiaries. It may be argued that one can never know what will happen in the future, but in most cases it happened soon after the PS support had come to an end. There were discussions around this issue within the PS programme administration at that time. It is no coincidence that all five cases involved large Danish firms. In a couple of cases, their dominant share in the joint venture could be seen as an indication of an unequal partnership that might not last. In another case, written documentation from the PS programme administration shows that it was aware of what was happening:

'The project is based on the assumption that [the Danish partner] will buy out the local partner after a couple of years. [...] This need not be a problem. Formally, the reason is that in the joint ventures, we have never interfered in what possibilities there may be for a later transfer of shares.' (Ministry of Foreign Affairs, StS.1, j.nr. 104.Indien.170, letter dated 19/3 1998, translated from Danish)

In view of the objectives of the PS programme, this administrative attitude to the partnerships is highly questionable. The previous sections of this chapter have given examples of cases where the Indian partner felt sidelined or even cheated. But also more generally, there was a perception among the Indian partners that the PS programme was primarily intended to benefit the Danish partner. Several Indian managers interviewed pointed out that almost all PS support money was given to the Danish partner, which they saw as an indication of a lopsided approach.

One manager who had a key role in a partnership in fact claimed that he did not know that there had been support from PS/Danida! It can be argued, however, that in view of the task – transfer of technology and know-how – it was natural and almost unavoidable that most (or all) of the money should be given to the Danish partner. Nonetheless it would have been possible to involve more Indian expertise, and this could have given Indian partners what some of them would have perceived as a fair share of the money. One Indian consultant who had a role in the programme stated: ‘The programme would have given better results if the money had been more evenly distributed’.

Another issue is the programme’s role in relation to small and large firms. Among the 23 partnerships, 9 of the Danish firms were small (less than 25 employees) or medium-sized (25-100 employees), the other 14 large (more than 100 employees). Most of the large firms were in fact very large, often among the largest in Denmark in the various branches, with more than thousand employees. Generally, the Indian partner firms were in the same category as the Danish ones: small and medium-sized Danish firms engaged in partnerships with small and medium-sized Indian firms, and large firms with large ones. However, small and medium-sized firms in India usually had more employees than their Danish partners, and there were also exceptions to the general pattern.

Against this backdrop, it is noteworthy that 9 out of the 10 partnerships that became commercially viable involved large Danish firms, whereas only one partnership with a small or medium-sized Danish firm became commercially viable (and in this case, where the Indian partner thrived, the Danish partner had financial troubles and had to close down). This, no doubt, reflects the fact that the large firms had more resources, human as well as financial, to tackle the many challenges in such a partnership.

But this, of course, raises another issue, namely the extent to which the funding from the PS programme had a decisive role in fostering the partnership and contributing to its success (‘additionality’). Clearly, the role of the programme was more significant in relation to the small and medium-sized firms, which in most cases would not have ventured into partnerships with Indian firms on their own. The large firms could much better afford this, and the previous sections have given examples of partnerships that were or would probably have been established even without PS support, but also some (involving large firms) where the PS programme had a decisive catalytic role.

5.2 Employment, wages and working conditions

The PS programme did not specify any targets concerning the employment effects of the support given, and one of the former PS coordinators conceded that in the India programme there was little focus on the employment issue. Nevertheless, it was understood that the employment that was created was an important effect of the programme. In 2000 a very informal assessment by the Danish embassy estimated the total employment effect ('direct job creation') to be around 1500 jobs (Sts1, 104. Indien.170, letter dated 24/2 2000). It was stressed that this estimate was uncertain. The method used for the assessment was not indicated, but it is likely that the figure was arrived at by adding up the employment in the joint ventures and other partnerships that had become commercially viable at that time.

Table 7 shows that, by using a similar simple method six years later, total employment in the commercially viable joint ventures and other partnerships with PS funding was around 2100. This, however, cannot be interpreted as a direct job creation effect of the programme. The previous sections of this chapter have shown that the role of the programme varied a great deal from case to case. In some cases (G, I, K, M) the partnerships would probably not have succeeded without the PS programme. In

Table 7.
Employment in commercially viable partnerships, September 2006

Partner-ship	Graduate	Other salaried	Workers	Men	Women	Total
B	60	40	500	580	20	600
D	50	20	100	150	20	170
E			5	5	0	5
G	?	?	?	50	20	70
I	50	250	50	280	70	350
K	5	5	40	45	5	50
M	75	25	15	95	20	115
N	50	50	200	200	100	300
R	30	30	15	65	10	75
U	10	40	300	50	300	350
Total	330	460	1225	1520	565	2085

other cases (B, R, U) it is likely that the employment would have been generated by the partners themselves in the absence of PS funding.

The firm with the biggest employment figure (B: 600 – almost 30% of the total) can be used to illustrate the issue further. This was formed as a joint venture with IFU involvement prior to receiving PS support. The support helped the firm – which was later turned into a Danish subsidiary – to upgrade its main product, and this was successfully implemented. But it was followed by several subsequent rounds of upgrading funded by the firm itself. After the PS support ended, the firm had 80 employees (in 2002). By 2006 this figure had increased to 600. The PS support no doubt contributed to this outcome, but it is difficult to say how much can be attributed to this among other factors. And it becomes even more difficult in view of the fact that the PS support was for activities and equipment that would probably have been financed anyway by the partners.

It is not only the total employment figure in the table that is of interest, but also what kinds of employment the PS programme helped generate. As a caveat, it must be stressed that the figures given here, as well as those below for wages, are based on interviews with firm managers and have to be seen as approximate rather than exact. Moreover, the distinctions between graduates, other salaried staff and workers are in some cases rough estimates, but, with some uncertainty in a couple of cases, they do show the correct magnitudes.

It can be seen that around 15% of those employed have a graduate background. They are primarily engineers, but also other kinds of graduates in production, management and marketing. Around 25% are classified as other salaried staff. This is a heterogeneous category comprising mainly technicians and office functionaries. Lastly, workers, skilled as well as unskilled, constitute 60% of the total. This distribution looks very 'normal', but that is a result of averaging very different cases. It can be seen that in some cases (B, K, N, U) there is an overwhelming dominance of manual workers, whereas in other cases (I, M, R) graduates and other salaried staff constitute the majority. Obviously, this mirrors the differences between the sectors the firms belong to, e.g. between consultancy firms, those producing intermediate goods, and firms engaged in the production of standard consumer goods.

Another interesting aspect is the gender distribution. Women constitute 27% and men 73% of the total. This again reflects a 'normal' situation in urban India, where men continue to be the primary breadwinners. But also here the average conceals

important differences. It can be seen that one firm (U) employs more than half of all the women in the ten firms. (It should be added that the employment figure in this case only includes one of the Indian partner's several factories, namely the one established with PS support.) In this factory, women constitute around 85% of the workforce, and they are almost all engaged in routine manual operations. Almost all are between 18 and 27 years old, half are married and half unmarried. In the two other firms with many women (N and I), it is the same age group that predominates, but not quite to the same extent. Here the women are not only involved in manual routine, but also figure among the salaried staff and graduates. This is particularly the case in I, which employs a relatively large number of young, unmarried female professionals. A more limited number of these are also found in a couple of the firms that employ relatively few women.

More generally, the picture is dominated by men. They constitute the overwhelming majority among the graduate and other salaried staff, and they are also in majority among the manual workers in 9 of the 10 firms (all except U). This, among other things, is a reflection of the pervasive gender roles in Indian society, but it also mirrors a lack of concern for gender issues in the PS programme.

Wages and salaries vary greatly both within and between firms. In the case of U, the female unskilled workers earn only 2,500-4,000 INR per month for 8 hours work 6 days a week. The firm is engaged in stiff competition in the international market, and it is located in a place where it is relatively easy to hire female workers at those rates. In the case of B, the male workers, who must have completed technical high school (10 + 3 years), earn 24,000 INR per month, which, according to the firm, is the 'market rate' for such workers in that location. Graduate engineers in the same firm earn up to 100,000 INR per month. In the case of K, a small firm located not far away from B, the male workers earn 5,000 INR per month and engineers up to 13,000 INR. But on top of the wages, this firm provides emoluments that can amount to up to 80% of an employee's wages. In the case of D, the male workers, who must have completed high school (10 + 2 years), earn 8,000 INR per month, which, according to the firm, is slightly above the market rate.

In the case of N, the fresh technicians earn 3-5,000 INR per month and the fresh graduate engineers earn 15,000 INR per month. These salaries increase with length of service. Most work in two shifts. In the case of I, technicians and diploma holders earn 7,000-20,000 INR per month and graduate engineers 15-35,000 INR per month. Most of the staff here works in three shifts, and this is a very important factor in giv-

ing this firm its competitive edge. In the case of M, the technicians and non-engineer graduates earn around 20,000 INR per month, the post-graduate engineers 30-50,000 INR per month. In the case of R, the experienced technicians have increased their salaries rapidly within a few years to a level of 30-50,000 INR per month. Finally, in the case of G, the salaries vary from 10,000 to 75,000 INR per month. Moreover, this firm, which is owned by its own staff, provides insurance benefits, sickness leave and flexible working hours in a five-day, forty-hour week.

These wages and salaries, with all their differences, are in general agreement with the conditions that apply in the Indian labour market. The market for unskilled workers is still influenced by the 'unlimited supply of labour', whereas the market for technicians and graduate professionals has been booming in recent years, characterized by dynamic economic growth in the urban parts of India, and especially the metropolises. Usually, the wages and salaries are around the market rate for labour with such skills, such gender and in such locations, determined by supply and demand. In comparison with wages and salaries in Denmark, they are obviously abysmally low. It is no secret that the low cost of labour has been one of the key attractions for Danish firms in engaging in partnerships with Indian firms.

It is noteworthy that the Indian trade unions, which are quite strong, were absent in virtually all the firms (in a couple of cases this information was not obtained). The managers were happy that this was the case. In two firms (B and D) there were 'factory unions', but these were primarily for association and recreation. The manager in one of these firms said: 'They don't do anything; they are very quiet!' But of course there are other ways of ensuring a proper dialogue between management and employees.

The physical working environment in the firms has not been investigated in any systematic way, but only during factory tours of an hour's duration or so. The impression in most cases has been that the working environment had a reasonably high standard, certainly higher than average conditions in comparable Indian factories. As Section 4.4 has shown, the PS programme has contributed to improved working environments in three cases.

Chapter 6. Conclusion

6.1 Implementation

The main modalities of the PS programme in India were grants for feasibility studies, training, technical assistance and equipment supply. Paragraphs about these modalities are followed by paragraphs about the administration of the programme, including the cooperation with IFU's programme.

The *feasibility studies* were in some cases superficial, in others more thorough and professional. They tended to be too optimistic in their assessments of marketing potential and commercial viability, and on the whole in not adequately envisaging the many challenges involved in such partnerships. It appears that in many cases the Danish firms involved were able to steer the feasibility studies in their own favour, based on their own interests and involvement, as well as close links between the firms and the Confederation of Danish Industries and the Danish Federation of Small and Medium Enterprises, which carried out most of these studies. The involvement of Indian consultants was minimal. A more impartial and balanced approach could have contributed to more realistic assessments of commercial prospects.

Huge amounts of *training* in both India and Denmark were carried out with funding from the PS programme. With few exceptions, the great majority of this training was implemented within the partner firms. In this sense it was tailor-made training serving the partnership objectives. In most cases there were discrepancies between the very elaborate training plans spelled out in the project documents and what was actually implemented. Generally the training in both Denmark and India appears to have been appropriate and sufficient, although there were cases where this was not so. It is clear that in many cases the training led to a significant upgrading of the trainee's skills.

Both the training of Indian staff in Denmark and the extensive use of Danish trainers in India evidently increased the training costs very considerably. Given the objective of the partnerships, to some extent this has been unavoidable, but there is no doubt that the use of both modalities would have been more economical if Danida had not footed most of the bill. A more widespread use of Indian trainers would have been appropriate in many cases and this would obviously have reduced the training costs a great deal.

In most cases the PS support to the partnerships included an important component of *technical assistance*. Typically, one or several staff members of the Danish partner firm were stationed with the Indian partner or in the joint venture for many months – even up to three years – in order to facilitate the transfer of technology and know-how. Usually the Danish advisors had a technical background in engineering or similar, but in some cases the advisors had managerial rather than technical skills. They were seen by both the Danish and Indian partners as representatives of the Danish firm, who, formally or informally, were monitoring the entire operation. Such a role is challenging for both partners, and its success depends on much more than technical skills, notably personal character, openness, commitment, cultural sensitivity and the ability to adapt to a foreign setting.

In about half the cases the technical assistance was well implemented and served its purpose, but in the other half was more problematic. The latter cases were generally perceived as involving ‘the wrong person’, whether in terms of qualifications, experience, attitude, commitment, adaptability or whatever. The Danish partner firms ought to have ensured better selection and more careful preparation of the advisors, and the PS programme could have made some demands in this respect.

The use of a strong element of Danish technical assistance is both natural and necessary in partnerships aiming at transfers of firm-specific technology and know-how. However, the easy availability of funding in combination with Danish partner-firm preferences led to exaggerated use of long-term Danish advisors, including for parts of the task that could have been handled well – in some cases better – by Indian consultants at a fraction of the cost of the Danish advisors. The fact that there were serious problems with the technical assistance in about half of the partnerships studied stresses that this modality should have been used with much greater care by both the firms involved and the PS programme itself.

The PS programme only financed the *supply of equipment* on a limited scale. Generally it was seen as the partners’ own responsibility to procure the necessary machinery and other equipment, whether from Denmark or India or elsewhere. However, in three cases substantial parts of the PS grant were used to acquire equipment related to the working environment and/or the external environment. This was done in agreement with the important cross-cutting concern for the environment in Danish development cooperation.

In spite of the PS programme's desire to support partnerships with an environmental dimension, there were only a very few small initiatives aimed at improving the external environment among the partnerships under study, and by and large these did not have any significant results. The few more substantial contributions had to do with the working environment. In all three cases the focus was primarily on the working environment in new factory buildings, in particular dust extraction and ventilation systems. In two of the cases the equipment functioned well. In the third case the installations partly broke down, and the Indian partner claimed that the improvements had not benefited the firm but had rather added to its costs. He saw the PS support as an attempt to introduce Danish standards in an Indian context where they were unwarranted and unsustainable.

The *administration of the PS programme* in India was carried out by able and dedicated staff members. The PS programme was closely monitored by the administration, which produced status reports on either a monthly or a quarterly basis, as well as annual reports. There were also some weaknesses in the administration, including unrealistic time horizons and inadequate risk assessments. The administrative task was made more difficult by the decision to phase out the programme at a time when it had really begun to make headway, as well as the subsequent vacillation around this decision.

Some weaknesses had more to do with the guidelines for the PS programme and the way it was administered in the Ministry of Foreign Affairs in Copenhagen than with its administration in India. Most important among these was the primary orientation towards the interests of the Danish partner. The initiative to establish a partnership almost invariably came from the Danish partner and/or the Danish embassy, hardly ever from the Indian partner. There was a widespread perception that the programme focused more on promoting Danish companies' interests than those of their Indian partners. The fact that almost all the money under the programme was channelled to the Danish partners contributed to this perception.

It can be seen as a weakness that there was no clear strategy for the PS programme. In the first phase, the programme was restricted to the agro- and food-industry in the two south Indian states of Karnataka and Tamil Nadu. After the limited response and results in this phase, it was decided to extend the programme to the entire country and to all sectors. In a sense, it became a free-for-all.

Lastly, a key administrative provision in the programme was the principle that it covered, generally, 90% of the training and technical assistance requirements, as well

as in some cases equipment supply and feasibility studies. The advantage of this was that it encouraged all interested Danish firms to become involved in a partnership without running more than minimal risks. But the drawback was that there was too little at stake for the firms involved: the availability of 'easy money' tempted them to opt for modalities that were not cost-effective, including extensive use of costly Danish personnel. In some cases the Danish firms embarked on ventures with too little commitment and thus a high risk of failure. One of the former PS coordinators stated that 50-60% funding would have been more appropriate.

In view of the interrelated objectives, it was obvious that the PS programme should establish *cooperation with IFU* in India. Throughout the existence of the PS programme there was in fact close collaboration between the two. Both the PS coordinators and the IFU administrators saw the collaboration as mutually beneficial.

It is clear that IFU and the PS programme complemented each other and produced an element of synergy for the partnerships. IFU provided share capital, while the PS programme funded training and technical assistance. In this way, those partnerships in which both were involved received the benefit of two types of official support. No doubt this contributed to the commercial viability of the successful partnerships, most of which involved large Danish companies. IFU saw itself as a neutral partner, inclined towards neither the Danish nor the Indian partner, but many Indian partners viewed IFU as part of the 'Danish' side. Thus the cooperation between the PS programme and IFU corroborated the perception among some Indian partners that both types of support were biased in favour of the Danish partner's interests.

6.2 Outcome

The overarching objective of the PS programme was to support partnerships between Danish and Indian firms in such a way that they became commercially viable. At the same time, there was a requirement that the Indian partner received substantial benefits from the partnership. Linked to this was a wish to create employment and contribute to environmental improvements, including working environments. The latter has been dealt with in the previous section. The other topics are taken up here.

It turned out that 10 of the 23 partnerships studied had become commercially viable. The reasons for achieving or not achieving *commercial viability* are clearly complex, having to do with the character of the partnership, the relevance of the PS support, the appropriateness, innovativeness and quality of the technology,

the training and technical assistance provided, and market parameters. Some of these factors have been dealt with in the previous section. The following two tables sum up in a simplified way the main reasons for success and failure with respect to commercial viability.

The character and evolution of *the partnerships* between Danish and Indian firms were of decisive importance for the outcome. Of the 23 partnerships studied, no less than 17 were intended to become joint ventures. In three cases they did not materialize for various reasons, but 14 partnerships actually took the form of joint ventures. Of these, 11 also had IFU involvement. In a sense, the joint venture was seen as the ideal partnership, committing both partners to work seriously together for the common cause. The six partnerships that were not intended to be joint ventures involved either license or buy-back agreements or some other form of technical cooperation. This entailed less commitment to the partnership – at least in principle – but not necessarily fewer results.

Seven of the ten partnerships that became commercially viable had the form of joint ventures. But it is noteworthy that no less than four of these afterwards became 100% subsidiaries of a Danish partner (in one case this was reversed later when the Danish company exited from all its businesses in Asia). A fifth was in fact established right away as a Danish subsidiary, although a partner was nominally involved.

This outcome was not in line with the main objective of the programme, which focused on ‘long-term collaboration’ with Indian companies. The PS programme did not aim to support the establishment of subsidiaries of Danish firms, and it was a requirement that there must be an Indian partner (whereas IFU had no such requirement). Thus it is a matter of concern that half of the commercially successful partnerships evolved in this way and ended up as subsidiaries. It may be argued that one can never know what will happen in the future, but in most cases this happened soon after the PS support had come to an end. There were discussions concerning this issue within the PS programme administration at that time. It is no coincidence that all five cases involved large Danish firms. In a couple of cases their dominant share in the joint venture could be seen as an indication of an unequal partnership that might not last.

There were cases where the Indian partner felt sidelined or even cheated, but more generally too, there was a perception among the Indian partners that the PS programme was primarily intended to benefit the Danish partner. Several Indian

Partnership	Main reasons for commercial viability
B	Successful upgrading, gradually booming market and a little export
I	New high-tech technology, emerging Indian market and later export (low prices)
N	New high-tech technology, emerging Indian market and later export (low prices)
D	New product range, good quality, large market
M	Successful upgrading, difficult market, but gradually improving
U	Successful upgrading, low prices, 100% export to booming international market
K	New product range, good quality, large market
E	New product, good quality, slow market, eventually improving
R	New product range, good quality, difficult market but gradually improving
G	New product range, difficult market, improving after adaptation in product range

Partnership	Main reasons for commercial failure
A	Not competitive in dynamic market, servicing of Danish partner too favourable
F	Only partial technology transfer, lack of trust, partnership broke down
L	Complex technology transfer, technical problems, difficult market
O	Exports only via Danish partner, unsustainable working environment
S	Difficult market for advanced technology, new to Indian partner
Q	Difficult market for advanced technology, Danish partner liquidated
W	Difficult market in area of emerging importance
C	Partnership broke down, mainly over price relations between the partners
V	Lack of trust, partnership broke down, followed by court case
T	Initial production and export, but both partners then went into liquidation
P	Product unable to compete with similar products based on other technologies
J	Technology tailored for Indian partner, not suited for the wider market
H	Difficult market for advanced technology in area not known by Indian partner

managers interviewed pointed out that almost all the PS support money was given to the Danish partner, which they saw as an indication of a lopsided approach. One manager who had had a key role in a partnership in fact claimed that he did not know that there had been support from PS/Danida! It can be argued, however, that in view of the task – transfer of technology and know-how – it was natural and almost unavoidable that most (or all) money should be given to the Danish partner. Nonetheless it would have been possible to involve more Indian expertise, and this could have given Indian partners what some of them would perceive as a fair share of the money.

Another issue is the programme's role in relation to small and large firms. Among the 23 partnerships, 9 of the Danish firms were small (less than 25 employees) or medium-sized (25-100 employees), 14 large (more than 100 employees). Most of the large firms were in fact very large, often among the largest in Denmark in the various branches, with more than thousand employees. Against this backdrop, it is noteworthy that 9 of the 10 partnerships that became commercially viable involved large Danish firms, whereas only one partnership with a small or medium-sized Danish firm became commercially viable (for the Indian partner). This, no doubt, reflects the fact that the large firms had more resources, human as well as financial, to tackle the many challenges in such a partnership.

But this, of course, raises another issue, namely the extent to which funding from the PS programme had a decisive role in fostering a partnership and contributing to its success ('additionality'). Clearly, the role of the programme was more significant in relation to the small and medium-sized firms, which in most cases would not have ventured into partnerships with Indian firms on their own. The large firms could much better afford this, and there were partnerships that were or would probably have been established even without PS support, but also some (involving large firms) where the PS programme had a decisive catalytic role.

The PS programme did not specify any targets concerning the *employment effect* of the support given, and one of the former PS coordinators conceded that there was little focus in the India programme on the employment issue. Nevertheless, it was understood that the employment that was created was an important effect of the programme. By 2006 the commercially viable firms had a total employment of around 2100 persons. This, however, cannot be interpreted as 'direct job creation' of the programme, since many other factors contributed to this outcome. In some cases the role of the programme was decisive, in other cases marginal. Moreover, in the

two firms with the highest employment figures (together adding up to almost 50% of the total) it is very likely that the partnerships would have evolved even without the PS support.

Yet it is interesting to analyse the employment figures. Around 15% of those employed have a graduate background. They are primarily engineers, but also other kinds of graduates in production, management and marketing. Around 25% are classified as other salaried staff. This is a heterogeneous category comprising mainly technicians and office functionaries. Lastly, workers, skilled and unskilled, constitute 60% of the total. Another interesting aspect is the *gender* distribution. Women constitute 27% and men 73% of the total. Men constitute the overwhelming majority among the graduate and other salaried staff, and they are also in majority among the manual workers in 9 of the 10 firms. This among other things is a reflection of the pervasive gender roles in Indian society, but it also mirrors a lack of concern for gender issues in the PS programme itself.

It is noteworthy that the Indian trade unions, which are quite strong, were absent in virtually all the firms. But of course there are other ways of ensuring a proper dialogue between management and employees. The *wages and salaries*, with all their differences, were in general agreement with the conditions that apply in the Indian labour market. The market for unskilled workers is still influenced by the 'unlimited supply of labour', whereas the market for technicians and graduate professionals has been booming in recent years, characterized by dynamic economic growth in the urban parts of India, and especially the metropolises. Usually, the wages and salaries are around the market rate for labour with such skills, such gender and in such locations, determined by supply and demand. In comparison with wages and salaries in Denmark, they were obviously abysmally low. It is no secret that the low cost of labour has been one of the key attractions for Danish firms in engaging in partnerships with Indian firms.

6.3 Concluding remarks

There is no doubt that the PS programme in India has contributed to economic and social development, both by supporting business partnerships that became commercially viable and through its effect in terms of employment. It is another question whether this was done in an effective and efficient way. The outcome has to be seen in relation to the DKK 74 million granted to the programme (in the second phase). The extensive use of Danish personnel for both training and technical assistance was

necessary to some extent, but clearly more widespread use of Indian personnel would have been appropriate and would have reduced the costs considerably.

Moreover, the programme only accomplished its main objective, 'to provide technology transfer and relevant training to Indian companies as part of a long-term collaboration, which is self-sustainable on a commercial basis,' to a limited extent. In most cases technology was transferred and relevant training provided, but only 10 of the 23 partnerships examined became commercially viable (43%). Only 1 of the 10 involved a small or medium-sized Danish partner firm. The remainder were all large companies, and in 5 cases the partnerships were soon turned into subsidiaries of these Danish companies, thus negating the objective of 'long-term collaboration' with an Indian partner. Thus, gauged by the programme's own objectives, there were 5 successful cases – understood as commercially viable long-term partnerships – out of 23, a rather disappointing 'success rate' (22%). In addition, one case can be viewed as some sort of success in that an Indian firm was enabled to take over a Danish subsidiary after the mother company decided to exit from all its business in Asia.

This is not the same as saying that nothing came out of the other four partnerships that became commercially viable. On the contrary, even though owned by a Danish company, they have likewise contributed to economic growth and employment creation. It should also be added that some of the training provided has been useful to those receiving it, even in cases where the partnerships did not become commercially viable. But of course its usefulness has been reduced by the overwhelmingly instrumental and somewhat narrow training provided. Finally, it can be argued that business partnerships always entail risks, not least partnerships between firms from different parts of the world. Viewed from that perspective, the fact that 43% became commercially viable is not too bad a result.

Nevertheless, it must be concluded that a handful of large Danish companies figure prominently among the primary beneficiaries of the PS programme in India, whereas only one partnership with a small or medium-sized Danish firm became commercially viable (and only for the Indian partner). The involvement of Indian partners in the successful partnerships was limited to a small number, three in joint ventures, and three in other forms of partnerships.

The results of the PS programme in India have clearly not measured up to the expectations or the programme's own objectives. As outlined in the previous two sections, there are many reasons for this – related to the partnerships, the technology, the

markets etc. But the PS programme itself – the way it was conceived and administered – has had a bearing on the somewhat meagre results. In particular, as evidenced by this study, the programme, with its bias in favour of the Danish partners, and in particular of large Danish companies, has contributed to what can only be described as lopsided business partnerships.

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Appendix I.

List of those consulted and where interviewed

In India

Danish Embassy

Michael Hjortso, Deputy Head of Mission (New Delhi)
Jes Boye-Møller, former Deputy Head of Mission (New Delhi)
Ravi Kapur, former PS coordinator (New Delhi)
Peter Hansen, former Commercial Counsellor (New Delhi)

IFU

Deepa Hingorani, Resident Representative (New Delhi)
Sridhar Sampath, Advisor, former Investment Officer (Chennai)

Danish Trade Council

Sune Kjeldsen, Export Advisor (Bangalore)

Consultant

Anand K. Sethi, former Consultant for IFU and the PS programme (New Delhi)

Firms

Naresh Arora, Managing Director, Maxflow Pumps India Ltd. (Gurgaon)
Sunil Chanda, former Director, Ace Wheel (Faridabad)
Rakesh Chanda, former Director, Ace Wheel (Faridabad)
Ajay Goel, Director, Parkash Woollen Industries (Panipat)
Neil Prasad, Managing Director, Danisco (India) Pvt. Ltd. (Gurgaon)
Ravindra Kumar, Technical Director, Danisco (India) Pvt. Ltd. (Sohna)
Rajeev Day, Senior Manager, Fibcom India Ltd. (Gurgaon)
D.D. Rajdev, former Managing Director, Fibcom India Ltd. (Gurgaon)
S.S. Motial, former Chairman, Fibcom India Ltd. (New Delhi)
V.K. Mahindru, General Manager, Kampsax India Pvt. Ltd. (Gurgaon)
Alok Upadhyay, former Managing Director, Kampsax India Pvt. Ltd. (New Delhi)
R. Kuppuswamy, former Managing Director, Dansteel India (New Delhi)
Bhalchandra Pasupathy, Director and President, Danfoss Industries Pvt. Ltd.
(Chennai)
P.R. Aqeel Ahmed, Managing Director, Florence Shoe Company Pvt. Ltd. (Chennai)

- S. Balasubramiyan, General Manager, Florence Shoe Company Pvt. Ltd. (Vellore)
V. Mohan, Chairman, Dr Mohan's Diabetes Specialities Centre (Chennai)
Rekha Thankappan, Executive Director, Dr Mohan's Diabetes Specialities Centre
(Chennai)
Claus Lyngaa, former Chief Consultant, CG Maersk Information Technology Ltd.
(Chennai)
D. Laxminarayan, Chief Executive, L&T-Rambøll Consulting Engineers Ltd.
(Chennai)
T. Srinivasan, Chief Consultant, L&T-Rambøll Consulting Engineers Ltd.
(Chennai)
J. Ganguly, Executive Vice President, ECC Construction Group, Larsen and
Toubroe (phone)
K.B. Vijaykumar, Managing Director, Fowler Westrup (India) Ltd. (Bangalore)
R.L. Kumar, Adviser, former Managing Director, Fowler Westrup (India) Ltd.
(Bangalore)
R.K. Jalan, Group Director, John Fowler India (Bangalore)
B.K. Venkataramu, Managing Director, CS Aerotherm (Bangalore)
H.R. Raghuram, Director, CS Aerotherm (Bangalore)
Michael Peris, former Director, Apollolys Aps (Bangalore)
Nirmal K. Gupta, Managing Director and CEO, LM Glasfiber (India) Pvt. Ltd.
(Hoskote)
D.P. Pillai, Senior Finance Manager, LM Glasfiber (India) Pvt. Ltd. (Hoskote)
K. Jeyakumar, Executive, LM Glasfiber (India) Pvt. Ltd. (Hoskote)
Akash Varma, Managing Director, Ishwar Trading (Mumbai)
Ashok Patel, Chairman, Pedershaab Millars India Pvt. Ltd. (Mumbai)
Ashok Totlani, Consultant, Infrastructure Leasing and Financial Services Ltd.
(Mumbai)
K.K. Nohria, Advisor, former Managing Director, CG Crompton Greaves (Mumbai)
Ganesh Viswanathan, Finance Director, Eurokids International Pvt. Ltd.
(Mumbai)

In Denmark

Ministry of Foreign Affairs

Franz-Michael Skjold Mellbin, Head of Office 'Business Instruments in Development Cooperation' (Copenhagen)

Henrik Wind Hansen, Head of PS Secretariat (Copenhagen)

Marie Wibe, Officer, 'Business Instruments in Development Cooperation' (by telephone)

Mogens Poulsen, former PS Coordinator in India (Birkerød)

Amaranath Reddy, former PS Coordinator in India (Copenhagen)

Stine Skipper, former PS Coordinator in India (Copenhagen)

IFU

Sven Riskær, Managing Director (Copenhagen)

Frank Norman Larsen, Deputy Managing Director (Copenhagen)

Henrik Jepsen, Department Director (Copenhagen)

Martin Kristensen, former IFU Head in India (Herlev)

Dansk Industri (Confederation of Danish Industries)

Nicolas Gebara, former PS consultant (Lyngby)

Håndværksrådet (Danish Federation of Small and Medium Enterprises)

Jens Kvorning, Head of Division (Copenhagen)

Firms

Peter Kvist, Senior Consultant, Brix and Kamp Marine A/S, formerly Convoy Group (by telephone)

Lars Jensen, former Director, Eurovita Holding (by telephone)

Michael Schrøder, Director, Metro Therm A/S (by telephone)

Ole Knudsen, former Consultant for FN-Aerotherm (by telephone)

Henrik Naaby, former Director, Dansteel Engineering A/S (by telephone)

Grimur Lund, Director, Logimatic A/S (by telephone)

Ole Mynster Herold, former Director, Green City Denmark (by telephone)

Hans Mogensen, Sales Manager, Westrup A/S (by telephone)