

# **Two International Training Programmes in the Philippines, Tanzania and India**

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and Project Management**

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and Economic Cooperation**



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**Sida Evaluation 98/21**

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## *Executive summary*

The two courses in Total Maintenance Management and Project Management have been part of the Sida sponsored international training programmes since the 1970s. Every year some 130 candidates take part in the courses, at a per capita cost of around 100.000 SEK. In total that means more than 2.000 people have been provided training at a cost of around 200 million SEK (at 1997 prices).

The present study is part of the continuous evaluations of the international training programmes (which also contains some 60 other courses). The purpose has been to look at the impact of the training, to see what use the participants make of the knowledge, skills, ideas and visions that they obtain during the courses. The evaluation builds on a questionnaire to a sample of 100 persons who took part in the courses between 1990 and 1997, plus site visits and interviews with a sample of 51 former participants in India, the Philippines and Tanzania. The course organisers were interviewed and the documentation of the courses has been reviewed.

Though the courses have been organised for many years, they have not remained the same. The contents as well as the organisation has changed; in particular the courses have become more focused on a few subjects, they have shifted towards more managerial and more theoretical subjects, and they have been expanded to accommodate an increasing number of applications. There have also been changes in subject matter, new subjects being added, others reduced, and the contents updated. The courses are professionally run and they hold a very high quality. This is also reflected in the high levels of appreciation shown by the participants. It is rare to find training programmes that consistently get so high marks in evaluations.

The objectives of the courses have not changed over the years. Both Sida and the course organisers need better objectives as a basis for their contractual relationship; objectives that focus on measurable effects. The objectives need to be reformulated to reflect the actual content of the courses.

Tracing former participants and interviewing them revealed that too many make little use of what they learnt. We discerned three levels of impact; those who make almost no use of the course, those who make some use of the course, though vague and uncertain, and those who make good use of the training programme. More participants make good use of the training, than in any other categories, but there is a difference between the countries. Those from Tanzania and India have less impact from the training than those from the Philippines.

The major reasons why several the participants make limited use the course was that they were transferred to new duties where the subjects of the training were no longer relevant. Some pointed at resistance to change as a major factor why it was difficult to introduce new approaches. Lack of trained manpower was another reasons. Many also perceived their own status in the organisation as a problem. They did not have the influence to introduce as much from the courses as they would have liked to.

In the cases where impact of the training has been high, it is possible to point to successful commercial developments, and good records of organisational performance. There is no doubt that the training programmes can have a major positive impact, and that they can be a highly cost-effective instrument of technology transfer. But it all depends on what the participants do after the training.

The evaluation identifies three approaches to strengthen the impact; (1) pay more attention to the selection of candidates so that only people who are in a position to affect changes are accepted, (2) start preparing the participants for their role as change agents early during the course, and work more consistently with this all through the training programme, (3) and keep in touch with the participants to support changes in job behaviour in the years after the courses were completed. In addition, we suggest that Sida needs to develop its substantive competence in the conduct and subject of the training programmes, and needs to rebuild a systematic and comprehensive monitoring and evaluation system. The evaluation presents the outline and methodology of such a system.





## **Introduction.**

### **Background**

The so called "international training programmes" have a long tradition in Swedish development cooperation. The first programmes started already in the late 1970s, in the fields of quality control, industrial maintenance, management. The programmes were few at the beginning but during the 1980s they became part of the technical cooperation programme of BITS (the Board for Investment and Technical Support). Here they remained until BITS and the old SIDA merged to form the new Sida in 1995.

The number of programmes expanded slowly until they had become around 30 in 1990. But the 1990s saw a rapid development of the programmes; the funds for the training programmes grew. Many courses acquired a strong environmental profile and new courses were added in the social sciences. During the 1998 budget year, Sida will sponsor some 60 training programmes.

The programmes aim at enhancing managerial and technical skills in developing countries in areas of strategic importance to economic and social development and in which Sweden has particular knowledge and expertise to offer. Most programmes concern the field of transport, communications, energy, telecommunications, environmental protection and industry. But there are also courses in journalism and democracy, law and development, human rights, conflict resolution, occupational safety and health, et cetera.

The programmes are open to candidates from developing countries from the lower and middle income level. Invitations to nominate participants are sent out worldwide via the Swedish embassies. Organisations from both the public and private sector can nominate candidates, but the final selection of participants is made by the course organisers. A course has between 20 and 50 participants, though most tend to take around 25. Unless there are some very good reasons, no more than 2 participants are allowed from any one country. That makes the courses truly international meeting places, with a potential for sharing of experiences. The courses last from 2 to 7 weeks, with an average of 4 weeks duration. They have become shorter over time. A few years ago a course could last up to 10 weeks.

### **Evaluations of the international training programmes.**

The international training programmes have been evaluated three times by external, independent evaluation teams. The first major study of impact and effectiveness was commissioned by BITS in 1991. This study gathered data through questionnaires to former participants in the courses, and through follow-up visits to a number of organisations in Egypt (Forss, Gustavsson and Lagercrantz, 1991). The authors concluded, inter alia, that:

- the participants were very satisfied with the programmes. 90% of the respondents found the contents of the programmes "just right", 65% found that the programmes were well suited to the needs of developing countries, and 68% thought they would be able to use what they learnt to a great extent.
- the majority of the participants were very satisfied with the competence of the teachers, and they thought the length of the programmes suitable. Somewhat less than 50% thought the programme was too comprehensive.
- the balance between subjects was well maintained. The theoretical contributions were most appreciated, as were study visits and other loosely structured opportunities to get ideas and "visions" during the visits in Sweden. The practical applications were less appreciated, and the personal contacts - though much acclaimed - had less importance.
- somewhat more than 50% of the participants were found to have direct and clear use of what they learnt in their daily work. In these cases, the evaluators also found that the changes introduced by the participants yielded substantial benefits to the organisations they worked for.
- but the knowledge transmitted during the courses was mainly used by some few persons, and the spread effects to others in the organisations - or in the countries - were limited or non-existent.
- the evaluators also concluded that maybe as many 25% of the participants had limited or no use of what they learnt.
- the courses were found to be highly cost effective. the evaluators estimated a multiplier effect of up to 70, that is, a monetary value of the benefits from the training about 70 times higher than the cost of the training.
- the courses were primarily addressing the "growth-target in aid, but had limited relevance for the other objectives of Swedish bilateral cooperation. The evaluators argued that the programme should be expanded so that it has some relevance in relation to the other objectives of Swedish aid (independence, democracy, equity, environmental sustainability - at the time).

The evaluation was very positive to the training programmes, in fact, much to the surprise of the agency commissioning the evaluation. But the recommendations were considered by BITS, and many of the changes in strategic direction that followed over the next few years were due to the evaluation. A system of monitoring and evaluation was also set up within BITS, and the next few years the programme officers managed an internal evaluation program, building on questionnaires to course participants at the end of each course, selected questionnaires three years later after the programme, and site visits by the programme officers. The evaluation results were reported to the Ministry for Foreign Affairs in the annual budgeting process.

In 1994 BITS commissioned an evaluation of its assistance to the energy sector in Malaysia. Several courses cover this field (Energy conservation in Industry, Electricity distribution management, Management of Electric Power utilities, Management of hydropower development, and Power systems control and operations). Malaysia had also received technical assistance in the energy sector, as well as mixed credits. Hence BITS called for a total evaluation of its cooperation with Malaysia in this sector. The conclusions in respect of the training programmes were as positive as the previous evaluation, and the training was found to be extremely useful in combination with the other instruments of cooperation (3E Economics, 1995).

BITS proceeded to undertake an evaluation of all its development cooperation with Malaysia within the field of technical cooperation and international training

programmes. A total of slightly less than 400 Malaysians had taken part in the courses between 1986 and 1994, at an aggregate cost of 25 million SEK. The industrial sector dominated, followed by telecommunications, energy, transport and environment. But there were participants in courses in the social sciences and public administration too. Malaysia was thus one of the countries that had sent most participants to the international training programmes, and BITS wanted a comprehensive picture of effects at the country level.

The evaluation was commissioned in 1995, and presented the week before BITS ended as a separate agency and merged with SIDA to form the new Sida. The evaluators used questionnaires and site visits, but the main method was to announce an "essay competition". In the following we quote extensively from the report, as it gives a rather detailed picture of the effects and effectiveness of the training programmes:

"The review above points at a diversity of effects. They all have in common that people who attended the programmes were inspired to do something differently. They did get knowledge, but perhaps most important was the idea, the vision of how things might be done in another way to save money, make money or simply do things better.

The most common effect is that people repeat all or part of the training programme. Both the staff at SIRIM use parts of the program in their own training and presentation. The manager of Wembley Gypsum also repeated much of the course in seminars for his staff. Mr. Halim Saad used the whole course as an inspiration and a benchmark for his Institute's international training programmes. The training provided to these persons gave a sort of multiplier effect as scores of others were trained as well. It is hard to say how many; it varies from less than 20 to several hundred in SIRIM's meetings with industries.

Yet another effect which we saw in chapter 3, but which we have not seen any examples of here, is that the participants find ways of having the whole course continued in Malaysia through technical cooperation. 10 of the 43 technical cooperation projects actually stemmed from initiatives of former participants. That is also a good sign, they would not have bothered if the course did not provide any substantial benefits. After all, the technical assistance projects cost the Malaysian organisations quite a lot as they usually foot around 50% of the bill.

Other reports have looked at the monetary gains from the training programmes. We cannot do that here for three reasons. One is that it would be quite complicated. Even though it would be theoretically possible to translate the environmental improvement following from the changes in solid waste management on Penang, it requires data which can only be obtained through long and costly field studies.

A second reason is that the input from the training programme is only one of many. We saw that MMCE had chances of winning contracts for several millions, and the knowledge gained from the course in Sweden was one of the factors that made the company recognised and competitive. But it would be ludicrous to suggest a causal connection. No doubt the inputs from the programme helped, but as one positive factor among many others.

The third reason is that the achievements that we identified are less tangible - they do not translate into monetary gains. What is the value of having 100 people for courses in conflict resolution? Assume that the value is equal to the cost paid by the Malaysian government (in theory they could be expected to think the course content is at least that valuable, why else pay for it?). In that case, the present value would be 100 persons multiplied by 15.000 MR, which equals MR 1.5 million. Compare this to the cost of taking part, which is now around MR 30.000. That would imply a multiplier effect of at least 50. It is an impossible calculation as decision makers do not think or calculate that rationally. But it illustrates how difficult it is to assess the real value of bringing a training program to others.

The conclusion is that the evidence of the participants that we have reviewed above were considerable, and far outweigh the costs of the programme. There can be no doubt, that in their cases, it has been a tremendously rewarding investment in training. But we have given evidence of 13 people. What about the 387 others? Have they done equally well?

No, we have interviewed one more person who took part in the course on Conflict Resolution. We interviewed 2 who took part in Bank Management. None of them could point at any tangible achievements from the courses. They appreciated them, claimed to have learnt a lot, but for various reasons there were no effects to show. When we came to the application level of our model, there was nothing to say.

Similarly, one of the essays spoke of ambitions to have an effect on the organisation, but there were no achievements to date. The author explained with many interesting examples how efforts to renew and revitalise the organisation failed. Even though the course was appreciated and provided much new knowledge, he was not in a position to make use of it.

In sum, out of 5 essays, 3 convincingly pointed at an impact at the application level, and at the organisational level. Out of 13 people (we treat the 8 at SIRIM as a whole) that were listened to in interviews, 3 had not accomplished anything on their jobs. In total, 5 out of 18 had not brought anything they learnt to bear at work, and in that sense the training programmes had no impact.

We assume that it is quite uninteresting from the point of view of development assistance if a few individuals know more, or had an interesting time in Sweden. If nothing else happens, then the money must be considered wasted.

Regrettably, the evaluation does not tell how common it is that the training leaves no impact. We had hoped to find far more evidence of impact through the essay competition, but for the reasons stated above, this did not materialise. We did get examples of very high impact, and some frank descriptions of how difficult it is to be a change agent. But we did not get enough responses to even guess at how many there are in each category.

It is probably wise to realise that a fairly large number of those who come for training have limited opportunities to affect changes. Other factors may interfere, such as changing jobs, new colleagues, lack of money, superiors who block renewals, and many other things. Others may simply not be suitable to take up the challenges of being a change agent. Perhaps as many as 30 to 50% really accomplish quite little (but this is a pure guess - but so is any other figure).

But this figure should be compared to the very significant impact that the remaining 50 to 70% realise. The value of what they do far outweigh the lack of impact from the others. As long as so many are so successful, it matters less that others do nothing. Naturally, it would be better if all go back and translate the training into action, but it may not be realistic to expect that.

This chapter has described the impact from the international training programmes. The type of impact varies, but we may distinguish on the one hand activities that in many ways replicate the training. Some participants were found to conduct similar courses for external participants, others had translated the programme into internal seminars, for example to introduce new employees to the organisation, and others had translated the programme into modules for consulting work, or into briefings and presentations.

On the other hand we have those who used the knowledge content, or the ideas as such, to change their own organisation. As an example, the solid waste management of Penang had changed considerably as a result of the inputs from the course. SIRIM developed an on-line information system, and one manager had introduced changes in the product assortment and inventory procedures as a result of the training.

The effects that we have seen were considerable and fully justify the costs of the programme. But it remains an open question how many actually do use their knowledge to improve things at work. We are tempted to conclude that quite a few, our guess would be around 30%, make little use of what they learnt. The course organisers must make every effort to motivate and assist all to make sure that the training leads to lasting improvements in their organisations - or at their new jobs."

Perhaps the most interesting aspect of this evaluation was the experiment with an essay competition. Regrettably, the experiment did not work all that well, due to a number of reasons that are elaborated in the report. However, the empirical data is interesting in its own right. We would like to quote one of the prize winning essays, from a participant to the programme in Quality Control. We select this example as this course has many similarities to the ones that are the subject of this evaluation, and in fact, the course is managed by the same firm which organises the Total Maintenance Management programme. This is how the participant described his troubles and opportunities in affecting change after he returned to Malaysia:

"The learning began even before the program started. The arrangements made for me to be met at the airport and the transfer to the hotel was for me an exercise in quality planning. The written instructions sent to me in Malaysia about what to do after arrival at Arlanda airport were precise and to the point. What impressed me was that there was no one actually waiting for me; it would in fact have been very unproductive to have people waiting at the airport for delegates who would arrive at different times of the day. I felt quite at ease because I had been told exactly where to go and where to wait at the airport.

I also encountered similar situations during my 10 week stay in Sweden, when we went on field trips and plant attachment. We always had clear written instructions and directions. What I learnt about making travel arrangements in this way has been very useful for me back home in Malaysia when organising conventions, seminars and study trips abroad. Well before the participants arrive or depart to a foreign destination, I now make a point to give them a briefing pack with as much detail as they are likely to need. This saves me and them a lot of unnecessary anxiety as well as frantic telephone calls. This is one direct result of the training experience that I went through in Sweden.

Another specific way in which I have been able to transfer my experience from Sweden to NPC is in the organisation of the international training programme we conduct. I can now put myself in the shoes of the foreign participants who spend about 8 weeks in Malaysia, so that I appreciate their concerns and needs, apart from the contents of the lectures. While in Sweden; I really appreciated the way in which the organisers made provisions for us to receive mail and other communication from home and arrangements for local travel, health, recreation, religious functions, sight seeing and a host of other details which are often taken for granted. In short, a lot of efforts were made to ensure that the participants took back warm and pleasant memories of Sweden. If there is one way in which my training experience in Sweden has had an impact on my work, it is the way in which we treat our foreign course participants. We treat them not just as course participants but as our guests who deserve the best of Malaysian hospitality, and as ambassadors of Malaysian goodwill in their home countries.

Since my work is at the National Productivity Corporation, I feel that much of what I gained is of benefit not just to my own organisation but also to Malaysian society in general. This is because the mission of NPC is to help raise the level of quality and productivity of the nation. One of the strategies adopted for this purpose is through training and consultancy projects. When I look back on the programme I attended I can see that there were at least three implementation possibilities that I identified even before I left for home.

The first possibility was that I could develop a number of short training modules based on specific topics that were covered during the 10 week program. I had in mind modules such as SPC (Statistical Process Control) Inspection, Cost of Quality etc. which would be offered to industry as part of our efforts to improve quality. I must admit that I have not been entirely successful in achieving this objective. One of the main reasons for this is the all-too-familiar scenario of being caught up in the treadmill of routine round of daily activities after returning home. Still, some of my existing training modules have been quite enriched by what I learnt during the programme, and evidence of this can easily be seen in many of the course materials which I now give out.

The second is that I have acquired a much clearer understanding of what is Total Quality Management. This has enabled me to impart the concepts of TQM much better to my course participants from industry and has given me a greater confidence in interacting with them. One of my main areas of work in NPC has been to carry out training and consultancy work in the area of implementing Quality Control Circles. After attending the programme in Sweden, I have become more convinced that QCCs can only succeed in the context of Total Quality Management. In this respect there has been a very real change in the way we handle our customer requests from QCC training.

Whereas in the past I would have delivered a QCC training module without much discussion, I now take great effort to make the customer understand the limited scope of QCC activities. Nowadays, I strongly propagate the idea that emphasis on QCC in isolation from TQM would in fact be detrimental to an organisation, by causing it to concentrate on the less significant aspects of quality.

A third impact from the training, is that I am now able to place various quality related activities such as 5-S, TPM, QCC, Suggestion Schemes, SPC, etc. in the context of Total Quality Management. In the past, we tended to promote each of these activities in isolation, without providing a contextual framework for them. Increasingly now, we take a total systems development rather than a piecemeal approach towards productivity and quality improvement among our client companies.

With increasing globalisation of the world economy, concepts and practices in quality management are no more specific to any one country. It is becoming irrelevant to talk about Japanese, American or German quality management. As a consultant, I need to benchmark myself against others in the global market. This is imperative in order to ensure that the services offered by my organisation are in line with the mainstream of quality thinking. Attending an international training programme was invaluable. It enables me to assess our strengths and weaknesses vis-a-vis the current global trends.

So far I have talked about the benefits that Malaysian industry, my organisation and I myself have obtained from attending the training programme in Sweden. However, it is also important to realise that participants of such programmes do not always succeed in implementing changes when they return. Still, it is difficult to see how he or she could not possibly have benefited simply by spending a certain amount of time in a foreign country, even if there was nothing new to be learnt from the programme. If candidates are carefully chosen, the individual trainee is sure to benefit immensely by participating in the programme. As I have explained earlier, participation is a learning experience in itself which cannot be discounted.

One should also not forget the benefit gained by the host country, Sweden. When a programme is well-managed and administered, such as the one that I attended, participants return home with fond memories of the country and its people. The intangible value of this goodwill is difficult to quantify, but nevertheless very real. Finally, the interaction among the participants of different countries goes a long way towards fostering international understanding and goodwill at a personal level. BITS should be proud to play a role in fostering such global goodwill."

In summary, the evaluations of the international training programmes over the last 7 years provide an overwhelmingly positive picture of their impact. The courses are highly appreciated by the participant. To be sure, there are differences. The ranking system of BITS showed that some courses generally were less appreciated than others. There are also cost differences, and some of the most expensive courses were certainly not among the courses that were most appreciated by participants.

The evaluations also point at systemic weaknesses that have not been corrected. The selection process is not sufficiently tight. A large share of those who take part still lack the language skills to follow the courses, and they are not in a position to follow up and implement changes when they return to home. Some are too junior, and others are too old to have the energy to act as change agents. Also, the course organisers seem to leave the participants when the course has come to an end. There is no follow up, and little commitment to assist the participants once they have boarded their flight home.

### **Purpose of the present evaluation**

The last evaluation of the training programmes was the one commissioned in 1995. The present evaluation will supplement the previous evaluation efforts by looking at two courses in particular; Total Maintenance Management and Project Management. Both courses have been part of the international training programme for many years, but were not in focus during any of the previous evaluations. (Terms of reference for the evaluation are enclosed in annex 1).

Sida chose to undertake the evaluation stepwise. First effects were described at a global level, and second, in depth studies took place in two countries; India and Tanzania. Both countries have had many participants in the courses. They are major recipients of Swedish aid, and they are examples of environments very different from Malaysia, Egypt and Uruguay, where the previous evaluations have gathered empirical data. In a third phase the Philippines was added to expand on the nature and extent of impact from the two courses. The task of the evaluation is thus to assess the impact and effectiveness of these two international training programmes, in these three countries, but with a background description of the impact of the courses also in other countries.

### **Evaluation method**

The first task was to establish practical criteria of success that bear a relation to the evaluation questions. This is often an elusive task, particularly in training, and there may be effects at several levels that have independent and contradictory effects. In theory it makes sense to distinguish four levels of effects from the courses:

(1) the reaction level; that is, whether the people at the recipient end appreciate the components and think they learnt something new. This is quite important as the recipients often are people with a clear sense of priorities and who have sacrificed other opportunities to take part in these courses. Their appreciation, their critique and suggestions for improvement are worth taking ad notam.

(2) the knowledge level; that is, whether the participants really did learn something and could be judged to have learnt by an outside, unbiased examiner. In addition to the reaction level, which may or may not have a bearing on the quality of knowledge, this level helps to give an unbiased and professional review of the content of technical assistance.

(3) the application level; that is, whether the new knowledge can be applied in a working environment. If the new skills are to have an impact they must be used practically (or theoretically, as the case may be), but on the job.

(4) the organisation level; that is, whether the application of new knowledge changes the performance of the organisation. Does it matter that someone applies knowledge from a training programme? Does it show in profits, productivity, quality of service? These questions would be answered at the organisation level.

In this study we concentrated our efforts to the application level. In our opinion, this is the most crucial level to determine the worth or merit of the training programmes. As long as there are no indication of sharply decreasing levels of appreciation, we might conclude that the courses are still appreciated by the participants - at least, we do not devote much of our effort to that level. The knowledge level is best evaluated by some form of knowledge test, which can really only be done in direct connection to the programme. The organisational level is of course also important, but to assess effects here requires a magnitude of resources and a sophistication of models that this evaluation cannot afford.

Practically, speaking, we carried out the evaluation by gathering and analysing three types of data; questionnaires, interviews and a review of the course contents. The sequence of tasks is outlined below:

1. The first step was to administer a questionnaire. The same questionnaire was used, as had previously been used by BITS in their analysis of impact by people who went through the training three years ago. The questionnaire is enclosed in annex 2. But this time it was decided to mail the questionnaire to a sample of 100 former participant in these two courses, in all countries except Tanzania and India. A total of 38 responses from former participants were recorded and have been added to a database. These responses are analysed in the text that follows. The responses from former course participants is adequate for a general, albeit superficial, confirmation of the trends described in the previous evaluations. But very few responses were received from supervisors, and hence we do not use the few answers we have. The responses were too few to have any significance. The data analysis was undertaken by Ms. Yvonne Swiontek.

2. Interviews were arranged with each of the course organisers, and in the case of TMM<sup>1</sup> also with one of the teachers. The person in charge of the PM<sup>2</sup> programme also had a major share in teaching so we did not specifically contact any other teachers on that programme. The interviews were open ended but structured, and the

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<sup>1</sup> Total Maintenance Management

<sup>2</sup> Project Management



guidelines are enclosed in annex 3. Each interview took around 6 hours, during which time we discussed the contents of the course, the pedagogical traits and the substance of knowledge that the participants were expected to obtain. We also discussed the goals of the course and various ways to improve the impact of the training. The interviews were undertaken by Kim Forss and Lars Bjern, and we were also accompanied by Hans Wettergren from Sida.

3. The most important part of the evaluation was to visit former participants in the programme at work and interview them about the impact of the training programme with them. During these interviews we also completed the above mentioned questionnaire, and these data have been added to the database. (The interview guide is enclosed in annex 4). But we also penetrated further into the issue of impact, changing job behaviour and consequences at the organisational level.

As mentioned above, three countries were selected for these visits; the Philippines, Tanzania and India. Between 1990 and 1997, there were 16 participants from Tanzania to the TMM programme, and 15 to the PM programme. We thus had 31 candidates to interview. But our visit to Tanzania was restricted to one week, and we chose to limit ourselves to two places in the country; Dar-es-Salaam and Zanzibar. The reasons were purely economical, 5 of the former participants were from Zanzibar and 18 from Dar. The others were spread in remote places such Mgoilolo, Musoma, Tanga, Morogoro. Each of these visits would have taken two to three days, and we judged that it was not worth the effort.

We wrote to the 23 persons in Dar-es-Salaam and Zanzibar and notified them that we would contact them for interviews sometime between September 2 and 9. When we arrived in Dar-es-Salaam we phoned, or simply walked over to their respective offices - and similarly on Zanzibar. Out of the 23 candidates in Dar and Zanzibar, we managed to contact and interview 17 during the week spent there. Four candidates were out of town, but we could interview their supervisors and/or colleagues. We thus got some information about impact from the training programmes in respect of 21 of the total 23 in those from Dar-es-Salaam and Zanzibar. We totally missed two candidates, we were unable to find the organisations they worked for, and had no luck in reaching them on the addresses mentioned at the addresses we received from course organisers.

We did not select any sample as such, but rather tried to reach the full population on two geographical spots. We traced 91% of the candidates, and actually interviewed 74%. The interviewees came from a mixture of organisations, government ministries, parastatal firms and private firms, some in manufacturing, others in services. But there was only one candidate from a civil organisations (Tanzania Parents Organisation) and we missed him. Otherwise we have not left out any specific category of participants. The interviews in Tanzania were carried out by Kim Forss.

India sent 10 participants to the TMM programme, and 13 to the PM programme. 14 of the participants came from Delhi, and the others were spread to the different corners of the Indian subcontinent. We decided to concentrate and economise on the travelling here too, and thus reached participants from Delhi, Madras, Jamshedpur, Kanpur, Calcutta and Visakapatnam. In total we reached and interviewed 16 former course participants, which makes our coverage of the population 70% (16 out of 23).

We might thus have a slight bias in favour of the government sector. People in government positions were easier to trace, and our concentration on Delhi also favoured this group. People in regional authorities or in smaller firms in regions might have different experiences in using the skills and knowledge from the training, but we cannot say whether that is for the better or for the worse. The interviews in India were conducted by Mr. Suresh Pingale.

The evaluation study in the Philippines was carried out from 27 February up to 08 March, using focus interviews and survey questionnaires as instruments. From a universe of 38 Filipino participants from all over the country, a total number of 18 participants were interviewed, either through a visit to their workplace/office (13 participants) or through meetings in an interview room (5 participants). In addition, a total of nine (9) were requested to assist the study by answering a questionnaire. Out of this total number of interviewees/respondents, only five (5) come from the private sector while the rest come from government agencies/organizations and the academic institutions. The interviews in the Philippines were conducted by Mr. Lars Bjern with the assistance of Mr. Benjamin Milano.

### **Validity and reliability**

The question of whether our evaluation results can be trusted or not depends on what type of impact we consider. The reader should have the following aspects of the evaluation in mind:

- (1) We looked at two courses, and our results obviously say nothing about any of the other courses found under the international training programme.
- (2) The response rate to the questionnaire was low, and hence the reliability might be questioned. But these data must be compared to those of previous evaluations. As the same trends appear to be confirmed, we might trust the findings more than if we had no other indications. Besides, the variation is very low, and hence the probability that the answers reflect the "true" opinions of the whole sample is quite large.
- (3) The interviews were conducted by an international team; Suresh Pingale in India, Lars Bjern and Benjamin Milano in the Philippines and Kim Forss in Tanzania. The findings are very similar. Hence, the nationality of the interviewer and the possible bias that may arise from this must be considered negligible.
- (4) The time span from participation in the programme to effect at work is important. Around 3 to 4 years is probably an ideal time to measure effects and that is also the mean time our interviewees had from the course to our visit. Some of those who took part in the programme 7 years ago found it difficult to remember what exactly the course had meant, but those who took part very recently often had not had the time to implement any verifiable changes.

- (5) Our tentative answers in respect of what the participants really learnt are - tentative. We are not experts in the topics covered by the course, nor have we followed any of the lectures. We strongly regret that neither of the courses have any test of the skills, knowledge or aptitudes that are supposed to be transmitted. In fact, we know little about whether the participants really learnt anything.
- (6) Tanzania and India figure prominently in the questionnaire part, but there is no significant difference between Tanzanian and Indian responses compared to those of other countries.
- (7) We have only interviewed people at work in India, the Philippines and Tanzania. There are good reasons to believe that this makes the whole evaluation biased. India and Tanzania are rather untypical cases. The Tanzanian environment is still very difficult. Many companies have gone bankrupt or have closed operations. Ministries are downsizing and are struggling to find appropriate roles. We simply cannot expect to find good causal connections between training inputs and impact. In India, recruitment to the courses has been severely limited to a few central ministries. Hence they are more likely to have been used as staff encouragement, rather than as targeted learning activities.

The choice of India and Tanzania for field visits has meant that we do not see as high an impact from the programmes as any other choice could have provided. The previous evaluations show that environments such as the Latin American and South East Asian countries are far more supportive of change - and of the application of new found skills. Even Egypt and other Middle Eastern countries constitute more enabling environments. Hence our results have low validity in respect of the impact of the two training programmes.

In the evaluation we can also see that there is a marked difference between the Philippines and the two other countries. The results from the Philippines look more like the previous evaluation results from Malaysia, Egypt and Uruguay. It could also be expected that the Philippines has a more enabling environment generally, and hence the chances that the training will have an impact would be larger. This is strongly confirmed by the results.

The participants from India and Tanzania constitute 64 out of the 955 people who have taken part in the two courses between 1990 and 1997, and we only reached 34 of them. Even if these 34 are typical of the participants from Tanzania and India, they are not representative of the remaining 94% of participants. Our guess is that many of the others have made better use of the programmes. The Philippine sample constituted 47% of the total from that country, but there are no reasons to believe that these do better or worse than most other participants to the programme.

## **A guide to the reader**

The report is structured around the main elements of our model of four levels to analyse results from a training programme. Chapter 1 describes what people think of the programme (the reaction level). This is based on the questionnaires. Chapter 2 describes the content of the programme and what the participants may have learnt (the knowledge level). This is based on perusal of course documents and interviews with organisers. It is also based on a review of what other course organisers do in terms of grading systems or other means of testing the actual learning impact of the courses. Chapter 3 describes what the participants have done afterwards and what impact that may have on their organisations (the application and organisational levels). This is based on site visits and interviews with participants. Chapter 4 presents conclusions and recommendations.

## **Chapter 1.**

### **What do the participants think?**

In this section we will describe and analyse the responses to the questionnaire which is presented in annex 2. This was sent out from Sida, via the Swedish embassies, to former participants. The questionnaires were addressed to a sample of 100 persons who had taken part in one of the two programmes during the last 7 years. Two questionnaires were sent out; one to the former participants, and one to people who were supervisors of those who went for training (the nomination of the candidates to the courses provides information on the candidates' immediate supervisor).

#### **Reactions from course participants**

The trainees' questionnaire consisted of twelve questions, which had to be answered simply with yes or no, and questions which had to be graded after different criteria as shown in the tables below. The respondents also had to choose between a number of statements which most accurately reflected their opinion on the course. Three of the twelve questions were open questions.

In the following evaluation 38 responses from trainees are included. In detail it means 12 responses from the TMM-programme and 22 from the PM-programme. It should be taken into consideration that about 100 questionnaires were sent out. We have also added similar information from the interviews (where we also completed this questionnaire). The total number of responses is thus 71, which is adequate for our analysis, but the reader should bear in mind that the response rate to the mailed questionnaires was rather low. We do not think the reliability of the results suffers much from it. The trends are clear, and the variance is extremely low.

In general the trainees were of the opinion that the courses were interesting, that they apply the knowledge, use the skills and ideas and that they occasionally apply the acquired knowledge. The table below shows the statements which were chosen by the trainees. They were given four statements and they were asked to decide which of them most accurately reflect their opinion about the course. It is clear that the general opinions on both programmes are similar. Trainees are positive towards the courses. None of the trainees found the courses to be of little interest, although three participants of the PM-programme had no opinion. However, we should note that more than half of the respondents chose an alternative which is less than the most desired outcome (assuming that Sida and the course organisers would strive for a situation where as many as possible make as much use of the training as possible). Bench marking is tricky, but in our opinion it should be possible to get a better result from the courses than these responses indicate.

**Table 1. What were the opinion about the courses?**


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The course was very interesting and I often make use of the knowledge	48%
The course was interesting and I apply what I learnt occasionally	42%
The course was interesting but it is difficult to apply what I learnt	5%
The course was of little interest and I do not apply much from it	-
No response	5%
Total	100%

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During the courses the trainees had the opportunity to get an insight into different aspects such as theoretical knowledge, practical skills, ideas and visions and personal contacts. In the questionnaire they had to grade these aspects. The table below shows the grades applied. It ranges from very useful to no use at all. The column 'no statements' was added after the evaluation of the individual responses.

The figures in the table show quite clearly that a majority of the participants found all aspects useful or very useful. But there are differences in degree. The theoretical moments of the course appear to be more appreciated, followed by ideas and visions. The practical skills are not appreciated to the same extent. Note also that quite a large minority do not establish any personal contacts that are of professional use or value.

There are some small differences between the courses. The participants in the TTM programme appreciate the theoretical parts more than those in the PM programme, but the latter gain more from "ideas and visions". Practical skills are more highly appreciated by those in the PM programme. The questionnaire responses obtained by mail show that a larger share appreciate ideas and visions than do those questionnaires completed during interviews. It is a significant difference, but the reasons are not known. Perhaps participants from more developed countries have a larger propensity to react to "vague" stimuli in a training situation, than do some of those from Tanzania and India.

**Table 2. Which aspects of the courses have been most useful?**


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	Very useful	Useful	Not so useful	Of no use at all	No response	Total
Theoretical knowledge	52%	45%	3%	-	-	100%
Practical skills	36%	60%	2%	-	2%	100%
Ideas and visions	47%	51%	2%	-	-	100%
Personal contacts	19%	51%	22%	5%	3%	100%

---

In the next two questions the respondents were asked if, due to the courses, they were promoted afterwards or if it was possible for them to change jobs or even organisation. Concerning both questions a positive trend is visible. It means that around half of the participants mentioned these courses to be useful regarding their promotion or their ability to change jobs. But we also find a relatively high percentage of 'no statements' because when trainees who didn't make any choice or answered with "maybe", we classified this as "no reply".

The question is if this should be considered good or bad? Does it tell us anything about the merits of the programmes? In a way it does. If people are not promoted within a time span of three years, we could argue that something is wrong. The course organisers have not managed to recruit the right candidates for the programme. But which are the right candidates? We take that to mean people who are in "mid-life" and upward moving in their professions. We would expect almost everybody to have been promoted (but naturally those who were for training a year ago may not have been promoted yet). In our opinion the figure of 55% being promoted is low, and indicates that more attention should be given to the selection of candidates.

**Table 3. Have there been promotions or changes of jobs?**

	Yes	No	No reply	Total
Have you been promoted or changed jobs since you took part in the programme?	55%	45%	-	100%
Has the training facilitated your promotion or transfer to new duties?	46%	48%	6%	100%

Let us now return to what the participants think of their achievements generally. The relation between the trainees' ambitions and their achievements was the main concern of the next question. The respondents were asked to choose between three different statements according to the relations between their ambitions, and hopes they had after the training and actual achievements until now. The results are presented in table 4.

We will return to this question in chapter 3, when we look at what the participants actually have done. Let us first note that we also asked what level of ambitions people had. Almost all thought their ambition were "just right" or possibly "too high". Only a small minority thought their ambitions were low. So, the participants had ambitions to undertake change, and almost 80% have either done exactly what they thought they would do, or more. That is at least what the results from the questionnaire tell us. But we should already now throw in a word of caution. The analysis in chapter 3 will present a very different picture.

**Table 4. Achievements after returning from the training programme.**

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I applied more from the training than what I had expected	27%
I have done what I thought I would do	49%
I not introduced as much change as I expected	24%

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Here the first major difference between the TMM and PM programmes appears. In the TMM-programme 67% of the trainees stated that they couldn't introduce as many changes as they expected, which stands in total contrast to the participants from the PM-programme where just 14% couldn't introduce the changes they expected. Here 45% applied things they have learnt to a much higher degree or have done what they have planned to do (41%). In the TMM-programme just 17% of the trainees could introduce things to a higher degree or have done what they have planned. Ambitions to change the organisation are in both programmes high. The trainees had to choose between four possibilities from 'far too high' to 'far too low'. In the TMM-programme 50% and 59% in the PM-programme decided their ambitions to be just right; 33% in the TMM-programme and 41% in the PM-programme graded their ambitions to be high.

But perhaps a more interesting question is what problems people have in applying their new found skills. In the following question the participants were asked to which extent different factors can inhibit the application of skills they were taught in Sweden. They had to grade possible obstacles (lack of physical resources, lack of money and foreign exchange, organisational policies, resistance to change, own status and influence and lack of trained manpower) using criteria ranging from "very important" to "no importance" as can be seen in table 5 below.

**Table 5. To which grade do the following factors inhibit the use of the acquired knowledge?**

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	Very important	Important	Less important	Of no importance	Total
Lack of physical resources	28%	40%	30%	2%	100%
Lack of money/foreign exchange	18%	31%	34%	18%	100%
Lack of trained manpower	17%	60%	20%	3%	100%
Organisational politics	36%	38%	15%	11%	100%
Resistance to change	26%	38%	30%	6%	100%
Own status and influence	17%	45%	25%	13%	100%

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If we look at the two columns "very important" and "important", we find that lack of trained manpower and organisational politics are the most important obstacles to introduce change. But the differences between the various obstacles are rather small. It is interesting to note that a majority of the participants find their own position in the organisation to be an obstacle; that is, they find themselves in positions where they do not have sufficient power to act as change agents.

We should note that the two most important obstacles to change can be affected by the training programmes; the significance of organisational politics can be addressed by including "change management" in the programmes, and people can also be taught how to spread their knowledge to others - and encouraged to do so. It is worth noting that there are no significant differences between the two programmes, and few differences between India and Tanzania. The Tanzanians found that "resistance to change" was less important as an obstacle to change than the Indians did. But physical resources and foreign exchange were - not surprisingly - more prominent.

It is often claimed that the social contacts between participants are quite important. people benefit from meeting colleagues in similar positions but other experiences from developing countries. These contacts can also lead to lasting connections and improved cooperation between developing countries. These issues are explored below, to what extent do people keep in contact and how?

**Table 6. Development of lasting contacts between participants.**

	Yes	No	Total
Social correspondence, Christmas greetings etc.	91%	9%	100%
Professional contacts	32%	68%	100%
Meeting participants from other countries	12%	88%	100%
Meeting participants from your own country	62%	38%	100%

Table 6 shows clearly that many participants still maintain social contacts with each other, such as writing letters or seasons cards. The professional contacts (which means exchanging ideas, information and contacts) are more scarce, even though quite many claim to have some form of professional exchange with other participants. But there is a difference between the programmes. Whereas a majority of the participants in TMM have professional contacts with each other, it is only a small minority of those in the PM programme. (Also 100% of the TMM participants maintain social contacts). The difference between the courses probably explain the extent of contacts, the TMM being a longer programme and being a smaller group (25 versus 45 in the PM programme). There is also a difference between countries. The Tanzanians and the Philipppinos were far more active in keeping in touch with each other and with participants from other countries than were the Indians.

The last question in the questionnaire concerned the relationship between the trainees and the course organisers. In some programmes, the development and maintenance of an international contact network (centred on the organisation of the course organiser) is important - not least because it can create a basis for Swedish export development. But in general, such a network can also foster more extensive collaboration and contacts between developing countries. Table 7 records the contacts between course organisers and participants in the same terms as those between the participants themselves in table 6.

**Table 7. Development of lasting contacts between course organisers and participants.**

	Yes	No	Total
Social correspondence, Christmas greetings etc.	55%	45%	100%
Newsletters, etc.	18%	82%	100%
Personal visits	12%	88%	100%
Professional advise, request for information	22%	78%	100%

The contacts are not very intensive, but still it seems as if about 20% of the participants have been in professional contact with the course organisers. The nature of the contact may of course vary. At one time, the course organisers experimented with keeping a newsletter in circulation, and that may be reflected in the response rate. But perhaps the most significant is that as many as 22% have turned to the course organisers for professional assistance in some way, perhaps asking for documentation, contacts with suppliers, or whatever. We have not had any indications that the course organisers neglected their requests or did not respond as they had expected.

### **Summary of the open questions**

The questionnaire also contained three open ended questions. Here the trainees had to express in their own words what they have done differently after attending the programme and if this was followed by any tangible changes in the organisation. In the third open question they were asked to give suggestions for improvements concerning the two courses. Below we give an account of these responses, but here we separate the discussion according to the two programmes reviewed.

Project Management Programme: The most frequently mentioned expressions for 'things that were done differently' were delegation, communication, teamwork and monitoring. Many participants afterwards improved their communication and their handling with subordinates. They focused more on teamwork and involved the teams in the decision making process. The trainees changed the monitoring process

and introduced evaluation measures; they became more organised. Many participants got more concerned with the human management aspect. They improved their time management and work scheduling as well as introduced stress management skills.

More delegation was often mentioned, as well as a better planning process. The participants became more confident as project managers than before. According to their replies, their suggestions and changes were connected with a variety of organisational improvements. Delegating more responsibility led to a better performance but also to an improved relationship between authorities and staff. The attitudes and behaviour changed. They also mentioned a much better internal communication and a more relaxed atmosphere. Teamwork helped carrying out tasks faster and smoother and enhanced the overall working environment. More training was introduced and through improved planning processes the organisational performance was getting better.

Finally in the third open question the trainees from the PM-programme were asked to give further suggestion for possible changes in the course. They mentioned that the topic about computer application was too brief. They also want the course organisers to put more emphasis on Project Financing and Project Management and less on common management. The participants were of the opinion that more practical experience rather than theoretical knowledge would be better and that it would be good to have follow-up programmes for refreshing and bringing in new skills.

Total Maintenance Management: In the TMM-programme the participants often claim to have reduced the number of personnel of casual/nominal maintenance jobs. They introduced preventive maintenance schedules, (SPM application) and safety applications as well as condition monitoring for bearings and machinery/equipment. They started designing maintenance work and documented job cards for maintenance programmes. The participants also started using modern instruments for machine monitoring and alignment. Through applying condition monitoring the failure of plants as well as breakdowns of machinery could be minimised which led to higher productivity. Together the quality improved. They also mentioned a remarkable improvement of speed, efficiency and maintenance cost as a whole. The maintenance staff has been reduced and the overall performance increased. In their suggestions for the course the trainees mentioned that it would be more helpful to get the possibility to look into real maintenance programmes and management activities. They would have liked to visit Swedish companies in order to see how they handle it. For the participants the practical side was not really sufficient. Some also mentioned that it could be advantageous to get an inside view of how to use computer in the maintenance work.

Naturally, we cannot verify these opinions, nor have tried to measure the significance of the different types of application. We can note that almost everybody claim to have affected some form of change, and do point at significance for the organisation. When we turn to the results of site visits in chapter 3, we find a different picture, but we will also be able to substantiate what it is that people do after the training programmes.

## Evaluation of the supervisors' questionnaires:

The questionnaire to the supervisors consisted of seven questions. The main idea was to find out if there have been any significant changes in the participants' job behaviour after attending the course and how the supervisors grade the impact of these two programmes: Did they see any changes in the organisation? To what extent did staff members benefit from the acquired skills? In an open question the supervisors were asked to give suggestions how to strengthen the programmes.

The reason for turning to supervisors was that these would have a more critical - and more true - opinion of achievements, but as already mentioned the number of responses was very low. This was of course to be expected, but we had not guessed the response rate would be as low as it actually was. Nevertheless, we sum up the indications in the text that follows. A total of 10 responded to the questionnaire, five in respect of each programme.

First, the supervisors were asked to assess in which way the job behaviour of the participant changed. Most of the supervisors said that the training led to more effective or even much more effective behaviour. In the PM course 60% were of the opinion that it is now more effective and 20% that it is even much more effective (one supervisor said that no changes took place). In the TMM - programme 80% were of the opinion that the participant's work is now more effective, to 20% who said that it is much more effective.

The next question concerned the impact of the training in the areas following: theoretical knowledge, practical skills, ideas and visions and personal contacts. None of the supervisors assessed the impact to be very low. In both courses the results show that the impact tends to be high and very high except the aspect of personal contacts, which was seen to be average by supervisors of the PM-programme. The best results were found in the areas 'theoretical knowledge' and 'practical skills' in the TMM course, and 'ideas and vision' in the PM course.

In the next question the supervisors had to assess if there had been any tangible effects from having had a participant in the training programme. When this was the case, they were asked to indicate these effects. In the TMM-programme all supervisors (100%) answered with yes. The effects they mentioned were development of knowledge, development of practical skills, and ideas and visions which were connected with increasing productivity. The trainees applied skills they learnt quite intensively, conducted other seminars or helped to improve the overall performance. Most of the supervisors connected with the PM-programme answered in the same way, although the results are not that good. 60% could find effects which were closely connected with having had a trainee in Sweden. They mentioned an improved interpersonal relationship in the respective departments, as well as better performance of the trainees themselves.

The next question was concerned with cost and benefits. The supervisors were supposed to assess the value of the benefit, assuming the training would cost 10.000 USD. 80% of the supervisors connected with the PM course found the benefits to be higher or substantially higher than the costs. One of them was of the opinion that effects were lower. The same result can be found regarding the TMM-programme.

Here one person assessed the benefits to be roughly equal to the costs. If the costs of the training had to be borne by the companies themselves 60% of the supervisors in the PM-project and 30% in the TMM-course would still nominate participants.

Sharing acquired knowledge and skills with other employees can be a very important step in improving the overall performance and the relationship among them. In this connection the interviewees were asked to decide how many employees in their organisation could get access to the skills the trainee acquired during the programme. According to the supervisors of those who had been to the TMM programme, many shared their knowledge widely, whereas those in the PM programme only shared their knowledge with a small handful of people - if at all.

In the last question the interviewees were asked to give suggestions on how the course could be made more useful for their organisation, as well as how the general impact of both courses could be strengthened. Regarding the PM-programme it was suggested that more time should be spent on Project Financing. They also wished to emphasise practical skills much more. Another point was the selection of candidates which should in their opinion be based on interest in the course rather than being a reward for many years faithful service in the organisation. A better chance of information exchange among the participants as well as more personal contacts for each country were mentioned too. Concerning the TMM-programme supervisors were of the opinions that the course could be strengthened through increasing the number of participants and allowing them to develop concepts, systems and ideas. They furthermore wanted the course organisers to be more knowledgeable of the industry the participant is working in and the state of development of the country.

## Chapter 2. What do the participants learn?

In this section of the evaluation we describe and analyse the contents of each course. We have already seen what the participants thought of the course and what they report back of effects. These achievements have to be seen in the light of the objectives of the courses and the actual substantial content. One limitation in the review that follows is that we have only based ourselves on the course programme, interviews with course organisers and participants, and a selective review of documentation. We have not been present during any of the courses. Naturally, it is very hard to provide an evaluation without first hand knowledge of what goes on between teachers and audience. The reader must bear in mind that we lack this first-hand exposure.

### Total Maintenance Management

The programme in total maintenance management has been a part of the international training programme under Swedish bilateral technical cooperation since the the 1970s. The course has changed considerably during these years, not least during the last three to four years. The course has been significantly reduced in number of weeks (from 12 to 6 weeks), it has gradually accepted more candidates for training (from 20 to 25 participants), and it has shifted from a practical engineering dominated perspective to more of a theoretical and managerial view of maintenance issues. These changes have largely been effected because of the feedback from course participants, but BITS and Sida have of course played a major role in reducing the number of weeks of the course.

Let us first look at the objectives of the course, as these are described in the information leaflet of the programme:

"During the last decades the development of theories, practices, methods and techniques in the field of maintenance has been rapid. The basic technologies, especially reliability and maintenance engineering, the methods of calculating the life cycle cost, design techniques for minimising maintenance requirements and maximising the availability of plant and equipment have all contributed to the advancement of maintenance from a position of minor to one of major significance in industrial management. This situation is reflected in the objectives of this training programme, which are:

- to provide the participants with an opportunity to upgrade their knowledge and retrain their skills in reliability engineering, maintainability engineering, fault diagnosis techniques, condition monitoring instrumentation and methods, application of operation analysis methods to maintenance, and other relevant subjects
- to provide the participants with opportunities to study practical applications of modern and efficient maintenance organisations and methods in Swedish industries
- to develop the participants abilities to analyse production and maintenance problems, to select adequate designs of maintenance systems and organisations, to install and commission such systems, train personnel and manage the systems in coordination with higher

management objectives and rules

- to discuss the practical difficulties in transferring technology and know-how and overcoming resistance to change.

Generally the training programme is concerned with maintenance management. The maintenance engineering part covers about 25% of the total time. This mix has proved to be adequate both for participants and their supervisors. "

So, to what extent are these objectives relevant, clear and sufficient for a training programme such as this?

First of all, we must raise some criticism concerning the overall use of the course objectives. We have looked at objectives for the course now, and 5 years ago. Even though the course has been almost cut in half the objectives remain the same. The course organisers continuously change and upgrade the training material, and the composition of lectures, study visits etc. have also changed. But the objectives have remained the same. To some extent it is of course possible to reach the same objectives with different means, but in this case, the means has changed so much that we do not think the objectives can remain the same any longer.

Second, several of the objectives are expressed in a rather vague fashion which makes it impossible to verify whether the objectives have been met. Look at the statements above. "to provide the participants with an opportunity to study ...", "to provide the participants with an opportunity to upgrade .....", or "to discuss the practical difficulties ...". These objectives are passively formulated, and, if taken seriously, impossible to evaluate. (Note that we have taken a different approach in this study, we expect to find concrete evidence of change. An opponent might argue that the course never had such an objective; the objective was merely to provide an opportunity to study, or to discuss!)

We think the programme would benefit from having clearly expressed goals in terms of knowledge, skills and aptitudes that the beneficiaries should possess after the training has been completed. The objectives should be stated so as to say that "the participants should know ...", or "should understand ....". If the objectives are formulated that clearly, it is also possible to verify through easy and inexpensive means whether the programme has successfully reached its objectives. This cannot be done today.

The question is if such objectives should be part of the information about the course? Perhaps it is more attractive with the general intents expressed above? Too "hard-nosed" an approach, or too much of a schoolmasterly jargon may turn away practitioners. No doubt the objectives have to be cleverly worded, but we believe all would benefit from having clear and realistic objectives stated. Also, there is no reason to defer to those who favour vague goals; the course could rather be in the forefront of more explicit goal formulation and attendance to an appropriate set of objectives.

Third, the last objective of the course is to assist the participants to act as change agents. This is important, and it reflects a real objective which is far more ambitious

than merely to "discuss the practical difficulties". But the importance of the topic is not quite followed up in the design of the programme. It is mentioned as one of four objectives, but no more than two days are spent on the issue.

We suggest that the course contents should be clearly reflected in the objectives, and vice versa. Otherwise the participants may end up with the wrong expectations of the course, and in the final end they might be less satisfied with the course than they would be if they knew what to expect.

Let us now turn to a review of the course content. The programme is centred on the three cornerstones of policy, steering and economics. Previously there were important technical sections, but these have been minimised due to the reduction of the number of weeks at disposal.

The largest block of lectures concerns maintenance management, which consists of an introduction to the importance of maintenance, production and maintenance, reliability and availability concepts, principles of maintenance, analysis of maintenance and maintenance strategies. These subjects take up the first three weeks of the course.

During the fourth week the participants start with maintenance techniques, and in week 5 maintenance systems and maintenance economy. There is a short interlude about safety and health aspects in industry. Week 6 starts with the company visits and then follows a business game - here called the maintenance productivity game. The course ends with the two days application seminar, during which time the participants also write a small essay where they outline what they want to do in their organisations when they return home.

We have looked at course programmes from 1972, 1975, 1979, 1985, 1995 and 1996. There are of course significant changes to the course, but we also suspect that much change takes place under the same heading - so what is said during 4 hours of maintenance management today is not the same as 25 years ago. The major differences are in the reduction of study visits and general visits in Sweden, a sharper focus on managerial areas, a decline in practical applications, as well as some shifts in subject matter. Procurement and some technical subjects in measurement and analysis are shorter or have been taken away. Only one new subject has been introduced, and that is safety and health aspects in industry.

We doubt that the course objective "to study maintenance organisation in Swedish industries" can be met through two brief study visits. We would suspect that a keen participant in the course would want to know more about maintenance at Volvo than he or she can be told during a day - and Volvo is not representative of Swedish industry anyway. We reiterate our point that the objectives must be revised and accommodated to what is feasible and realistic.

But on the whole we find that the contents of the programme are relevant. We have looked at a sample of the overhead pictures, the case studies and the material for reading which is presented under the topic of "application". The material is of a high quality, and it does not lack anything in substance. It reflects what would be said under this topic at an advanced level of a university programme.



The most popular parts of the course are the maintenance seminar and maintenance economy. The participants are less interested in the subject safety and health. The computer applications are also difficult; some think they are at too advanced a level, whereas for others they are not up to the highest standards. The participants pre-knowledge is widely different and therefore it is difficult to design training contents at an appropriate level in between the best and those least experienced with computers.

All the course documentation is in English. The maintenance management part presents a ready made map with all the documentation. There is an exercise book, with space for notes and to work with the practical exercises. As for the remaining parts of the course, the participants get an empty map, and they are left to assemble and organise the different handouts on their own.

The course is arranged and administered by ISO Swedish Management Group, and M Gruppen Partner stand as course leader and responsible for the course content. A total of 7 to 8 teachers are used, most of them externally recruited, on the basis of past experience, and though there has been some turnover it is not much. Rather, as the course has been cut, some of the teachers have been laid off.

In sum, the course appears to be well designed and to have competent teachers. The documentation is appropriate, and particularly in respect of the maintenance management part useful. We will now turn to the other programme.

## **Project Management**

The course in project management has also been part of the stock of international training programmes for long. The first course was conducted in the late 1970s. The programme is run by Projektstyrning AB, a consulting firm which specialises in project management; it provides project managers to industry and other organisations on a contract basis, takes on ordinary consultancy assignments in project management, and runs a number of courses in project management - for Swedish industry as well as under the Sida financed technical cooperation programme. Among the clients are major Swedish firms such as Ericsson, Volvo and ABB.

The course is one of the largest in the Sida international training programme, as it accepts a full 45 candidates. According to the course organiser, they have around 250 applicants to each course, and they run two courses every year. Over a 7 year period we have thus had some 630 people taking part in the course. The duration of the course is slightly more than 4 weeks (23 days) at present. We quote the information leaflet for a review of the objectives and the target group:

"The primary objective of the course is to strengthen the participants' capacity to guide a project to a successful conclusion. General methods and skills will be demonstrated, partly through lectures and exercises, and partly through discussions designed to relate the general areas to the participants' own experience and management problems.

Among other things the participants will get

- a structured view of a project

- methods and skills for efficient utilisation of available resources
- training in dealing with - and being part of - temporary organisations (project organisations) and how to start, carry out and finish tasks within given scope."

"The course is intended for candidates who are or will be active as managers or administrators of medium to large projects in developing or newly industrialised countries, in either the public or private sector. The course is also open for managers with the task of selecting and/or monitoring project managers and their work.

The candidates are expected to show promising career prospects and have executive experience either as managers, or as senior officers or specialists. Experience in project management or in any kind of project work will be taken into account when selecting participants."

Are these objectives relevant? Are they clear? Do they provide a sound basis for evaluation? That depends on the purpose. They serve well as introduction for those who may be interested in the course. Together with an outline of the programme, the reader gets a reasonably good view of what will take place during the course. But the objectives do not serve as a sound basis for evaluation. For that purpose they are too vague in character.

As a first step, we rather like the second sentence outlining what the participants will get; "methods and skills for efficient utilisation of available resources". But, we would like to know which those methods and skills are. For that purpose we can turn to the course plan, where we find that roughly a day may be spent on, for example, project planning of time, resources and costs. But this begs the question, we would still need to go further into the planning of that day to find out exactly what the lecturer in question will say, before we get a grasp of which these methods and skills are.

This is cumbersome, and we suggest that Sida and the course organisers formulate goals and objectives that can be used for reporting and evaluation towards the end of the course. We should mention that each course (and this refers to the TMM as well) is evaluated on the final day, and the course organisers send a report to Sida. However, these reports are rather meaningless as evaluation feedback - we have not seen any report which deals with impact and effectiveness. They provide a descriptive account of the course, and report what the participants thought of the organisation, and that is all. But the first step is to formulate objectives that can be evaluated.

We also miss something in coverage. There are no objectives that go beyond the transfer of skills. The purpose of the course must be to promote change at work when the participants get back. The course does not spend much time in preparing the participants for such change and reform management, and that may partly be because this level of effects is not stated as an objective of the course at present.

The course consist of three building blocks, and on top of these there are a number of study visits and a project management game which runs for three days. The study visits shift from year to year, and it is becoming increasingly difficult to get access to interesting places. Last time, there were visits to ABB Stal Refrigeration in Finspång (which is often mentioned as being particularly interesting), the Swedish Environmental Protection Agency, and the National Road Administration. It is a mixture of public and private, reflecting the diversity of participants. It is common to

hear that only one or two visits was of interest, depending on the background of the candidate. But the programme does provide something for everyone. The compromise is unavoidable as long as the course caters for 45 people.

The first topic is called "project management and administration" and lasts for seven days. This consists of lectures on basic concepts, models for administration, exercises in goal setting, time planning, project organisation as well as follow-up and cost control. The subjects are relevant and necessary ingredients in project management.

Project management skills is a subject which covers 4 days, and these contain more of personnel management, team building, negotiation, communication and delegation skills. Many of the interviewees mention this area as of particular relevance and interest. It is a rather small share of the total, 4 days out of 23 is less than 20%. Perhaps these areas are of greater importance - and more unusual, more novel - than some of the other topics.

The special topics are a mixture of things, though it is not quite clear to us why they are special topics rather than part of project management and administration. It is probably more of an administrative logic than something relating to the substance of the lectures. Among the special topics are project appraisal and feasibility studies (which is also mentioned by many as being a particularly good part of the course), financing, and procurement.

Towards the end of the programme, participants write a note on changes that they expect to undertake when they return home. These are assembled by the course organisers, and mailed to the participants a month after they have returned home. The idea is that they will then get a special reminder of the programme, and an encouragement to be change agents.

The idea is good, but may need stronger intellectual support than it gets at present. We looked at two such reports at random, and were surprised at the low quality of planning. Goals, practical planning, costing, organisation, all were issues that needed more attention. The level of these two, randomly selected plans, suggest that a critical discussion might have served them well, and that the authors would have needed more exposure to basic theories before the course objectives were reached.

In sum, like in the TMM programme, we found the subject matter of the courses interesting and appropriate. But the objectives need to be revised and more sharply formulated, taking into account impact in the developing countries; and the objectives should be used in the reporting. In terms of content, the course could probably benefit from introducing subjects or exercises that focus on what might happen after the course, and how this may come about.

### **A note on the measurement of learning effects**

In the model we presented above the second level of training effects concern what participants actually learn during a training programme. We have reviewed this above, but we miss a substantive account of whether the participants really learnt something. There are many ways to gather that information:

(1) Ask them, what did they learn during the course? But our experience with such questions are discouraging. The respondents often find it hard to articulate what they learnt. Besides, the answers would be very unreliable, depending on whether they were satisfied with the course or not.

(2) Ask the teachers, what did the attendants learn? Anybody who has been in a teaching position knows that you usually get a fairly good idea of what your students know beforehand, and how much they understand and learn from what you say. The teachers would be in a good position to tell us whether the participants really learnt something. Now, we would not suggest that the teachers would lie to an evaluator, but perhaps the discussion would be influenced by the fact that the teachers do have a stake in a continued programme.

(3) Ask the supervisors of those who have been for training? They would not be biased, and they would be critical because they have made an investment in the training by sending the person away. They would presumably expect results. The problem is that they are dispersed all over the world, and may be little motivated to respond to a questionnaire, which is the only way to reach them at a realistic cost. Our experience of having less than 20% responses to the questionnaire are discouraging.

As none of these approaches are relevant, only one remains, which is also the most traditional approach to testing the acquisition of knowledge in a training situation, namely some form of a grading system when the course comes to an end. We have obviously not been in a position to administer such a test, but we have on previous occasions recommended that more formalised knowledge/aptitude tests be instituted on the training programmes.<sup>3</sup>

In the present evaluation we cannot report on knowledge gains for the two courses covered here; TMM and PM, but we can cast a glance at two courses which have actually administered knowledge tests<sup>4</sup>. Those two courses are Occupational Safety and Health in Practice, and Improving Production for Competitiveness. The subjects indicate that these courses are related to those two we are evaluating.

In the first of these courses the participants undertake a project work, which is an important learning vehicle in the course. The format and standards of the report is defined in a manual, and the project is also orally presented to the course. The project should focus on prevention of accidents, propose or take applied action, and include an evaluation of results. The project work is evaluated by the teacher. Let us quote how the tutor's assessment of the projects, as reported to Sida:

"According to the tutors most of the projects had well defined goals which were met. Useful, practical conclusions were drawn for more than half of the projects. The tutors believed that many of the projects had importance for the nation, the company and/or the employees. Most

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<sup>3</sup> Kim Forss, unpublished paper written for BITS on the evaluation of the international training programmes. 1993 and 1994.

<sup>4</sup> In the annual meeting of course organisers in January 1998, those who administer some form of a knowledge test were asked to contact the evaluation team. Only two course organisers did so, and we thus conclude that only these two organise knowledge tests. It reflects poorly on the course organisers, and it indicates that the large majority are not seriously interested in developing adequate evaluation instruments for Sida.

of the projects suggested actions for change, but such changes had been taken in only two projects. ....In some cases, it may be assumed that a tutor's positive evaluation of a project reflects an understanding of preconditions and problems and thereby overemphasising or exaggerating small positive results regarding national importance, in particular."

Looking at what is said between the lines, the text indicates that around half of the projects had practical conclusions, which does not seem too impressive. Surely the aim would have been for 100%. As far as we can understand the text, none of the students were failed, all received their diploma. But apparently around half did so without being able to conclude a practically relevant project. Only two projects had led to some form of action when the course organiser wrote the report. The report indicates that there is a some way to go before the actual knowledge development in the course reaches satisfactory levels.

Turning to the training programme "Improving Production for Competitiveness", these course organisers also build on project work as a leading pedagogical instrument, and as a tool for examination. The participants are expected to complete project work and submit final reports<sup>5</sup>. Out of the 26 participants, 18 were able to complete their projects and submit final reports, and these have also received a course diploma as a sign of recognition. We may thus assume that the other 8 participants did not take part in the programme fully, or failed to work according to the intents of the organisers. The project reports quote a large number of practical examples of the impact of training, such as development of investment plans, improved working environment, reduced lead times, and better motivation for employees.

There are two things in particular that we would like to emphasise with the examples of these two courses:

(1) Participants do not all do equally well, and it is interesting to find out how many that actually learn as much as is expected from the programme. These two evaluations seem to indicate that the majority (in the first case more than half, in the second case 18 out of 26) pass the tests and successfully complete project work. A first step to improving the substance of the course programmes (any, not just these) comes from a recognition of how many actually do learn as intended, and then it is possible to start working to increase the number of participants who actually pass. But first you need to know how many do pass, through some form of grading. Hence the urgency that all training programmes develop grading systems.

(2) It is possible and feasible to develop grading systems within the courses. If these two organisers can do so within their budgets, why cannot all the others also do so? We urge Sida to introduce mandatory reporting on the quality of participation as a part of the contracts with future course organisers. Whether this is done through project work, reports, essays, tests of attitudes and knowledge before and after the training, or any other means, would naturally depend on the substance of each course.

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<sup>5</sup> The role of project work varies between the programmes, and in this course there is a fine division of labour between seminars, support by tutors, project work, and final evaluation. For a full report, consult the Final Newsletter, March 1998, from Ifa Production Development AB

### Chapter 3. Impact of the training.

In this chapter we will describe the changes at work that have taken place, and in some cases we can also point at an impact at the organisational level in terms of money earned or saved, improved efficiency, or some other type of effect. We will quote the interviews we have conducted, as well as the site visits. Confidentiality was never mentioned as an issue during our interviews, but in general we choose not to provide the names or other personal details of those who have provided us with information. When we write of positive changes and successful reforms, we assume that the interviewees have no objection to being identified. When we have more critical comments, we have been careful not to point out any particular person, as that may be embarrassing or simply not polite. In the following we will first present findings from the field visits in Tanzania and India, and then we will turn to the experiences in the Philippines<sup>6</sup>.

In chapter 1 we found that the respondents to the questionnaire in 90% of the cases reported that they made frequent, or very frequent, use of the knowledge and skills obtained in the programmes. But previous evaluations that built on site visits mentioned figures that were lower, indeed several evaluations assumed that as many as 30 to 50% of the participants may not have been able to put the training to use. The same picture emerges here. The visits in India indicated that no more than 8 out of the 16 interviewees had any practical benefit from the training. The visits in Tanzania revealed that 10 out of 17 had little or no use of the course, and out of the 4 that were traced, but not interviewed in person, we conclude that only 1 might have some use of the training. The others had shifted to jobs where it was unlikely that they benefited much.

The indications are thus that somewhat more than 50% make little or no use of the programme. But, as we have mentioned in the introduction, it is also likely that the impact of training is lower in countries like Tanzania and India; in Tanzania due to an often harsh and non-supportive environment, and in India due to a systematic failure to get the "right" candidates to the programmes (the application forms are not widely circulated, and there is an over representation of candidates from central government ministries).

The question is of course what empirical basis we have for these conclusions regarding impact. As mentioned in the first chapter, we conducted extensive interviews and observations at the work places of a fair sample of respondents. We do not have any bias to our sample of former participants. In the following we will take some examples of cases where there has been no impact, where the impact has been

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<sup>6</sup> There are two reasons to split the presentation according to the geographic groups. First, the field visits to India and Tanzania were undertaken at the same time in late 1997, and the field visits to the Philippines were undertaken a few months later, in early 1998. Second, there is a pronounced difference in results, which makes it important to stress and emphasise the impact between the two groups of countries. Even though India and Tanzania are widely different as countries, they have commonalities in terms of impact from the training programmes which will be explained below.

very limited, and where there has been a considerable impact from the training. We have thus sorted our interview data into these three categories:

*No impact*  
*Little or medium impact*  
*Considerable impact*

The reader will realise that this is a judgment that we have done as evaluators, and it reflects our impression from the interviews. However, we are fairly confident that we have made a correct assessment, and our evaluation is based on the information provided by course participants. The account below will give the reader an opportunity to examine whether the conclusions appear to be trustworthy.

### **Examples of no impact.**

During one interview we met with Mr A. who took part the project management course. When selected to the course, he had been attached to a line ministry (such as industry, public works, agriculture, or the like). He had worked as a staff officer, and during those days much of the work in a ministry was organised in project form. But soon after returning from the training he was transferred to the Ministry of Defence, where he now holds a post in personnel administration. This is a support function within the administrative department. The problem is that work there is not organised in project form. Mr A. appreciated the course and said that he had learnt much, but to his regret he did not apply anything of it in his new post. Nor had he had the time to introduce any changes in his former job.

Mr B. made the same point. He is Director of Planning and Administration in the Ministry of Finance, which is a post he had already when he attended the project management course. His post is important, as he heads one of four directorates in the Ministry and supervises some 50 people. He found the course very interesting, and it put him in a much better position to deal with projects from the application and formulation stage and up to financing. Unfortunately, the portfolio of projects have been transferred from his directorate to the department of external finance. The Ministry mainly deals with projects when they have to negotiate foreign assistance, and hence all projects were moved to that department. Consequently he has no opportunity to exercise his skills from the course. Instead, he would like to take part in a new course which deals more with administrative management.

Mr. C took part in the TMM programme, and at the time he was employed as maintenance manager in a parastatal firm. But, like with many similar firms, the economic climate of the 1990s forced a close down. Mr. C never had an opportunity to introduce any changes - or rather - though he did start to introduce special schedules of changing oil, change of bearings, et cetera, these were minor as the company was short of liquid assets, and soon afterwards closed down. Mr. C is now employed in a ministry, and his new duties are far removed from practical maintenance problems.

These few examples suffice to illustrate the lack of impact from the training programmes. It is interesting to note that the most common - in fact, the only -

explanatory factor is that people changed to new duties. There is a major difference between the programmes. It is less than 20% of the participants in TMM who, themselves, say that they have not undertaken any changes following the training. But it is a full 60% of those who completed the PM course who claim that they do not use the knowledge they acquired, however much they would like to do so.

The TMM seems to attract candidates who stay with maintenance management throughout their careers. It was rare that they had shifted to other duties (we only found one example, which was quoted above). But the PM programme attracts candidates with a variety of interests, and from jobs that can change more rapidly. If a higher impact is desired, it seems necessary to screen the organisation and the career prospects of the candidates more closely for this course.

In defence of the course, someone could of course argue that the PM course transfers a number of skills in general management that are not only relevant for work with projects. Indeed, goal formulation, planning, organisation, et cetera, are topics of a general relevance. But if the participants do not recognise that these skills can be used outside of a project setting, we cannot conclude that the course had an impact. If we are told that it is not possible to apply the skills, then we must conclude that the skills are not applied (but we may still think that the participants have misunderstood the nature of the training). The overall conclusion, that the objectives were not reached, remains.

### **Examples of low to medium impact**

In practice there is a borderline between those who have some use of the training programme and those who simply had no use at all of it. At times it is difficult to verify, or the nature of the response is so vague that we cannot get a good grip of the impact. But on the other hand we cannot really conclude with certainty that there was no impact. Below follows a sample of situations where we think the impact was low, but still better than nothing.

Mr. D also holds a position in a line ministry, which is rather rare for persons who have attended the TMM programme. Most participants in that course actually work in industry. Mr. D. heads work with the heavy industries section in the ministry. The course has had an impact, and he has several opportunities to apply what he has learnt. The government has presented a strategic vision for industrial development over the next 20 years, and this also emphasises the need for total maintenance management. (We looked at the government policy paper in question together with Mr. D. It contains 20 pages of text, but could not find any mention of maintenance issues, but Mr. D. claimed that it is there - somewhere).

Still, even if the course was useful, the changing roles of a Ministry makes it difficult to apply the training at times. The government would need to introduce maintenance guidelines for industry, and Mr. D. is thinking of starting this (he attended the course in 1990). His job at the Ministry also means that he acts as the governments appointed board member in several government owned firms. That means he can bring attention to maintenance issues right into the board room, and he can interact with maintenance engineers when visiting firms.



Turning to Mr. E we found similar experiences. He holds a position with the Planning Commission, and has a background in economics. He has taken part in several training programmes abroad and at home, since he graduated from university in 1991. The Planning Commission is responsible for overall development management. It scrutinises the development budget of line ministries, it writes policy papers, it is in charge of monitoring and evaluation, and should also advise the line ministries on how to address specific issues.

Mr. E. claims that the course was useful, and he is now in a better position to advise line ministries on project formulation and evaluation. However, he thinks the programme had too much emphasis on private industry, and thus less relevance for his tasks, which are more concerned with development planning of social sectors. He was also of the opinion that the course should contain more on the subject "institutional economics", as the reform issues in the public sector are pressing in his country.

Several interviewees also mention that the training has helped them attack problems in a more systematic manner, as for example by analysing the root cause of a problem and its the specific solution. Some mention that they have improved the team spirit in their section, others that the communication skills learnt in the PM course helped them improve feedback systems. Yet another common comment was that the course helped the participants to function more professionally.

Mrs. F sets an example. When she attended the course she was employed at the headquarters of a major bank, where she was working with applied research and development (in project form). She has been transferred to other duties since several years, and she is now a manager of the foreign department of one bank's branch offices. As head of that department she has line responsibilities for a number of bank functions, such as opening letters of credit, incoming and outgoing foreign transactions, exchanges, et cetera. She is also responsible for personnel management at the branch office.

Although she does not actually work with projects any longer, she claims that the course has helped her act in a managerial position. In particular the aspects of the course that deals with personality analysis, team-building, and communication has been very useful. She still remember the contents, though it is more than 5 years since she attended the programme (this was verified during the discussion). She has not attended any other training seminars, hence this course represents the only training she has taken part in since she left university.

There are about equally many persons in the group of low to medium impact as in the group of those with no impact; that is, around 10 to 14 in each group. In theory, we could be exact, naturally each interview gives us empirical evidence which is used to categorise the respondents. However, even if the interviews each lasted for a couple of hours, it is difficult to be certain. It is thus advisable to let the categorisation reflect the somewhat uncertain status of the empirical data.

We find that some of the explanations why the impact is low are similar to that mentioned above, namely that people have been transferred to new duties. But time

also enters into the picture. When it is more than five years since a person attended a training event, and when the nature of the things referred are rather general, then we cannot attribute the changes only to the course. There are likely to have been intervening factors. There is a debate in evaluation theory on how long it is scientifically possible to estimate effect, and many draw that line at five years, others argue that effects can be discerned up to 10 years after the training. But the more time has passed, the less can we attribute the changes to a particular programme.

Yet another example above illustrated that a person had been to several training programmes, of a rather similar nature. In such a context it is impossible to attribute changes in job behaviour to one course in particular. Instead the courses have possibly reinforced each other, and the positive outcome that we find rather stems from the interaction of several factors.

### **Examples of high impact**

In this category, we think it would be possible to place around 12 to 14 of the interviewees. There are significantly more people from the TMM programme than from the PM course. There are several reasons that may explain this. The PM course may suffer more from the bias in the selection of countries. In addition, it may be more difficult to trace concrete impact from this course, after all, those who have introduced changes in maintenance management usually can point to physical results, or verify with figures what the effects have been. But the project management skills are less concrete - although there are some examples of verifiable change here too. As we have mentioned, the participants in the PM course are also more likely to have shifted duties and responsibilities.

Let us take the example of Mrs. G. who took part in the PM course. She works in a region and is actually employed in connection to a Sida project called "Integrated Child Development". Her position helped her gain access to the course, otherwise it is not likely that the invitation had penetrated to her level in the administration. One part of her duties is to prepare annual reports on the project to Sida. The presentation of these reports has improved substantially since the training was completed (this was verified by comparing old and new annual reports). The systems of collecting information for the reports has been revised, so there are now clearer channels of communication and a more efficient flow of data.

Mr. H. took part in the TMM programme 7 years ago. At the time he was employed in a parastatal firm, which had to close down in 1992. He left, was employed as an electrical engineer in a small firm, and later shifted to ABB where he became a sales engineer. He worked for several years in that position, but has recently been promoted/transferred to new duties.

ABB is introducing maintenance consulting as a new business line on the market. Mr. H will be in charge of this new section of the ABB subsidiary in this country. He is happy about the new duties, both because maintenance is his true profession and interest, but also because it gives him executive responsibilities. He said it will be interesting to launch a whole new consulting concept and make it work. He sees the course as a very important part of his background experience for this new job.

Mr. H. could also mention several examples of how the course helped him address change in the organisation he worked for. In one place there was a problem with a pressing machine which had a tripping motor. There was an argument between the mechanical and electrical engineering sections, and none could solve the problem. The manager said it was an electrical problem, the electricians said it was mechanical problem. Still, the motor was dismantled and shipped for rewinding. When it returned it was still tripping. The systematic approach he had learnt from the TMM programme helped him pinpoint the cause of tripping in the motor. The pump was dismantled, and it was found that the bearings had never been replaced. The mechanics in charge had completed reports that bearings were shifted, but had never done so. Now the machine started working again, but without this input the problem might not have been detected for some time. In addition, if these skills had been put to use earlier, the expensive standstill and the unnecessary rewinding of the motor, could have been avoided. Mr. H mentioned several more concrete examples of problem solving with the use of concepts, approaches and methods developed during the TMM programme.

Mr. I is now General Manager of a medium sized industry, which is a joint venture with a foreign firm. He has been general manager for five years, but before that he was factory manager for 22 years. When he attended the programme in TMM he was still factory manager. He said that a programme such as TMM is essential. In a company like his it is necessary to prolong the technical life span of machines and equipment.

The company he works for was established in the early 1970s with a very limited capital base. Since its inception, it has been generating profits, and it has gradually expanded. All new machineries and other investments in buildings etc. have been financed from the revenues. The share holders have not put up any new capital, nor has the company taken any bank loans.

Most of the machines in the production line have been kept from the start. Maintenance is regular and the preventive maintenance concept is fully introduced. The production line has not suffered from any breakdowns or standstills. When walking through the factory with Mr. I., it was quite clear that the plant was very well maintained.

From the perspective of an evaluation, it is of course difficult to attribute the success only to this training programme. It is quite clear that there are many other factors that affect the outcome. But it also illustrates how important the environment is. The firm has had a prudent and careful management, where the application of maintenance management has been supported and encouraged, and where there was a good basis of sound maintenance to build on from the start.

But a very different form of application and impact is illustrated by Mr. J. who took part in the PM programme a few years ago. He works for a consulting firm, which is now a parastatal but will soon be privatised and/or sold out to the employees. He has an engineering background and before joining the consulting firm he worked in line positions in industry. The course in project management came at the right moment in his career. In his new job he works in project organisations all the time, at times as a team member but at times as team leader. All aspects of goal formulation, planning

and organisation has relevance and he uses the knowledge from the course on a daily basis.

It is difficult for him to point at any parts which were more useful than others. He finds that the managerial subjects, those dealing with personnel management, communication, negotiation and team building to be as essential as those subjects which focus more on the project administration.

As an example of an assignment where he applies the skills, he mentioned that his firm has won the tendering process for the establishment of a major textile mill. It is a consultancy assignment of three years, and he thinks that the course both helped his firm secure the job as their plan of implementation obviously was superior to the competition. But as he will be the project manager, all the knowledge of the course will be applied in the implementation of the assignment.

But the course content is also used in other ways. The firm recently recruited new staff members. Mr. J. was responsible for drafting job descriptions, advertisement and screening the applicants. He found that he had much use of the personality analysis and the notion of how skills and personality traits supplement each other here (which were taught during the course), and his ideas played a major role when one of the applicants finally was selected.

Mr. J. mentioned how his firm won the tendering process for the textile mill. One result of the course was that he now writes better tender documents, and these are common duties in a consulting firm. He takes part in some 20 tendering processes a year, and if the course helps them win, it has a major significance. He also mentioned that style of documentation and the format for project work he learnt during the course now has been introduced as the common standards in this consulting firm.

These few examples should provide a convincing picture of what it looks like when we conclude that the training has had a high impact. Yet an issue which we have not touched upon is how many people share the training. We have found few examples, even of those who have successfully used the training, where the knowledge has been formally transmitted to others. None has organised seminars or courses for their colleagues. When knowledge has spread, it has been on an informal, almost accidental basis.

### **Examples from the Philippines**

Let us now turn to the interviews conducted with candidates from the Philippines. A total of 18 persons were interviewed, which is somewhat more than in India and about as many as in Tanzania. Naturally, we found examples of people who had no benefit at all from the training, as well as those where training had little or medium impact. But we consider that fully 40% should be placed in the high impact category, and 30% each in the low/medium category and 30% in the no impact category. In the Philippines we thus found that 70% of the persons who have been for training have use of what they learnt, and in only 30% of the cases do we think that the training has been of no use - as it looks at present. We will first present an example of the no impact category, and then successively move towards the other categories.

### *Examples of "no impact" in the Philippines*

Mr. X used to work at the national headquarters of the Bureau of Internal Revenue (BIR). In 1994, as chief of staff of the BIR Commissioner (head of government agency), he learned about the course on Project Management through information on the course offering, which was circulated in all BIR offices. As he had previously participated in some local courses on similar subject, he thought that an international exposure could be beneficial to him professionally. Based on the course description, he became interested in taking PM (Project Management) course. He attended the course in 1994. Soon after his return from Sweden, after having completed the course, the BIR went through reorganisation which resulted in his being promoted to a position as Head of Revenue Data Centre. In his own judgment, this new position was not a direct result of the course in Sweden. However, he has nothing negative to say about the course itself.

He thought that the course could be more beneficial to people involved in "production", including government utilities such as water supply, communication, road construction, power generation, among others. Of course, there are some topics from the course that are useful to his job, namely: time planning, which has made him more efficient; activities scheduling and performance monitoring. Compared to locally organised courses on PM, the international course in Sweden is more detailed and presents practical applications in an industrial setting. Apart from this, he does not see any significant difference from courses on project management offered locally. After his completion of the course in Sweden, he had no opportunity to disseminate the knowledge among his colleagues at BIR, as most of them have already taken locally organised training courses. He suggested that the course description should be presented so as to focus on people in production.

### *Examples of "low/medium impact" in the Philippines*

Our first example in this category is about two gentlemen, both working with a government agency dealing with transportation and communication. Both followed the PM course in Sweden. Mr. S, attended the course in 1995. He was very appreciative of the opportunity to attend the course, and was quite impressed with the topics covered. After the course, he decided to develop his project management skills further and went on to study different related topics at the University of the Philippines in Manila by enrolling in evening classes. He recently earned his Masters Degree through intensive evening session studies. With his competency, he has been receiving invitations to serve as resource person in other training programmes on PM. The course, and the subsequent studies at the university, have resulted in his promotion from Division Chief to Director of the government agency.

Mr. T took the PM course in 1991, much earlier than the first participant. After his return from the course, he served as Head of the Engineering Section, supervising the work of 20 people. The course gave him more confidence in his job, particularly in relation to work situations requiring PM techniques. He claims that his section has developed efficiency levels greater than other sections in the agency. He estimates that he uses 70% of the course content regularly in his daily work. Mr. T has also gone for further studies at the state university. He expects to earn his Masters Degree in 1998,

and there are indications that a promotion will come within the year. Messrs. T and S have served as resource persons for internal training programs on project management conducted at the government agency where they both work. They also disseminate their knowledge through advice and sharing of experiences with their colleagues.

A Government research institution, ITDI (Industrial Technology Development Institute) is involved in technology for industrial application. It is one of several specialised research institutes that belong to the Department (Ministry) of Science and Technology (DOST). Its main priority is to provide services to companies in enhancing production capabilities with the use of improved technologies dealing with specific materials and processes. Dr. U works with ITDI as its deputy director, in charge of administration and finance.

In 1994, she was admitted to the PM course in Sweden, on her second attempt to join the course. During her first application for the course, she did not get the chance as the department already had its recommendations processed and selected by NEDA. To her, the theoretical and practical lessons learned during her course have contributed to her professional development and improved her handling of the various projects. In order to share her new skills, she conducted a one day seminar for 35-40 project officers of the institute. Some of the participants of the seminar would now consult her once in a while for additional advice on project management techniques.

Having recognised her competency in project management as a result of her course in Sweden, some of the operating units at the department (DOST) occasionally use her as a resource person for in-house seminars which incorporate topics related to project management. Additionally, some of these units would request seminars especially tailor-made to their requirements. As a result of her training in Sweden and subsequent use of her newly-learned knowledge in her work and related activities (seminars), she claims that she has improved her work performance considerably. She has also developed confidence in preparing and implementing projects for the institute. More specifically, she has developed a good grip on controlling cost and monitoring project progress.

These few examples serve to illustrate that even though there were few tangible outputs from the course, it has fed into a process of gradual skills development and better career prospects. It is also noticeable that all the interviewees have worked to spread the knowledge they got in Sweden to colleagues within their companies or to others. It seems as if almost everyone of them has shared some of the knowledge with some 25 to 50 other persons, both through regular, formal training sessions and through informal, on-the-job counselling. That must be considered very satisfactory, and far better than the experience from India and Tanzania, where none of the interviewees did much to disseminate information to others.

#### *Examples of high impact in the Philippines*

One very interesting observation from the Philippines is that three participants have formed unique synergistic experiences because of common desire to use and promote their experience from the TMM programme. This proves that government

organisations, private enterprises as well as academic institutions, can link up and jointly develop efforts to advance the development and practical applications of TMM techniques. Let us look at the different aspects of this cooperation:

(A) Private sector development. The focal point of this interesting case is Mr. Y, who has been working as maintenance engineer all his professional life. He had attended a number of maintenance seminars which brought him to other countries, like Japan. Throughout his professional years, he started to design his own manual systems for preventive maintenance. In 1988, he participated in the Swedish course on Basic Maintenance Management for a duration of 10 weeks. He found that the Swedish course was comprehensive, and that he learned new tools he previously did not have.

Later, he joined a large multinational beverage company and received the task to develop a total company-wide maintenance system. Remembering the inputs from the Swedish course, he again applied for Advanced Maintenance Management offered in Sweden, to which he was admitted for a six-week course in 1996. As he realised that the task of creating a company-wide system would be an exacting and awesome job, he recommended to his management the training in Sweden of one of his colleagues, who was subsequently admitted to the course. This colleague of his, Mr. W, attended the course in Sweden in 1997. Together, they formed a team that is currently developing a fully computerised system for company-wide total maintenance at the beverage company. Mr. Y, who is the Director of the Engineering Department of the multinational company, plays a strategic role. His colleague, Mr. W, who is now project manager, serves as his implementing arm. Recently, Mr. W also has been given the responsibility of installing the maintenance system for all 10 plants of the beverage company throughout the country. Regularly, both of them conduct internal training programs for their other colleagues.

(B) Government Sector (Research Level). Another case is a government centre for research and development in the Metal Industry. This centre early on had plans to implement an upgraded technology for maintenance management, especially as it is regularly contacted by the industry for expertise in monitoring equipment status and standards used in production. At one time, UNDP was prepared to support the centre with acquisition of new technology for maintenance management. However, a precondition was set, requiring the centre to have its personnel trained in preventive maintenance management by a reputable organisation.

In 1992, the Chief Engineer attended the TMM in Sweden, which was followed by four engineers undergoing similar intensive training in Sweden. Two of the trainees, after their return from the course, opted to join the private sector. One joined a large engineering and construction company, while the other joined a multinational manufacturing company. The Chief Engineer and his two other colleagues who remained with the research centre have introduced changes in their work with the new ideas and tools learned from the Swedish course. They introduced regular training modules, which incorporate the course content of the TMM. These are offered to private companies. On the other hand, they also conduct in-house training for their colleagues at the centre. Some 6-8 engineers have been trained on all aspects of TMM. The centre has also been conducting seminars for requesting companies in the metals industry sector over the last 5 years. A total of 168 companies have sent

participants to these seminars, involving almost 400 maintenance engineers. They have also developed a computerised maintenance system, which is marketed together with training modules of the centre. The system is still based on DOS, but they are now transferring the same to Windows to make it more popular. Their intensive training in Sweden and the utilisation and transfer of competence to the private sector have merited full UNDP support for acquisition of latest TMM equipment and tools.

(C) Academic Sector. Mr. Z used to give lectures in Industrial Maintenance at the University of the Philippines. He was invited to participate in the Swedish TMM in 1995. After his return from the course in Sweden, he was put in charge of the maintenance courses at the state university. He updated the outline of these courses and incorporated most of the things he learned in the TMM course in Sweden. Through this improved curriculum, he was able to share his knowledge with a larger group of maintenance practitioners throughout the Philippines. He was also put in charge of the maintenance group at the National Engineering Centre, where he was able to share with his colleagues the things he learned in Sweden through regular interaction on the job.

#### *Common Results , or synergistic effects*

So what do these sub-cases have in common, and what is so interesting? Quite a lot actually.

- o A national association of maintenance engineers in the Philippines has been formed with both Mr. Y from the private sector, and Mr. Z from the university serving as directors in this professional organisation.

- o Mr. Y is regularly contacted by Mr. Z to give lectures on specialised topics at the university where Mr. Z teaches maintenance. Thus, Mr. Y is able to share his rich and long experience in TMM, in an actual industrial setting. The practical work experience of Mr. Y is considered as a good complement to the theoretical lessons in TMM being taught at the university.

- o The government research centre which is developing its computerised maintenance system now consults Mr. Y as an expert on design and practical applications of TMM. The centre also utilises him as a resource person in seminars for the metal industry to which various companies send participants.

- o Mr. Y, who is the most experienced of them all, is off-and-on requested by other countries to conduct seminars on Preventive Maintenance Management. Sometimes, he does this in cooperation with colleagues from the government sector and the academic community. This fact indicates that government, academic institution and private sector can fully cooperate to further advance the appreciation and application of TMM techniques towards same direction: widespread use of TMM in industries.

- o The most interesting result of this tripartite cooperation is probably the fact that, together, they managed to approach Sida for assistance in "moving" the course to as wide a public as possible in the Philippines. Realising that it was not practical and



economical to have a good number of Filipinos go to Sweden for the course, they found ways and means of propagating TMM to a wider group of practitioners in the country by arranging local seminars. To supplement the topics which they handled themselves, they invited Swedish resource speakers to talk on more advanced topics. Of course, these seminars are much shorter than those offered in Sweden. At most, the seminars ran for a couple of days to one week instead of the regular 6-8 week Swedish courses. By organising and concentrating on topics related to the local demand, they managed to provide comprehensive training to local participants. Two such seminars have been held during the last two years. The intention is to gradually have more local seminars with local and foreign resource speakers.

Another successful case is evident in a government department for environment and natural resources. In this case, we present Ms. L, around 30 years of age, who gave a comprehensive view of her experience in the PM course and its impact on her professional development. Prior to taking the PM course, she served as project manager for the department's community-based forestry program. There were around 10 similar project offices in the organisation. Due to the needs of the organisation to streamline its structure, a number of these offices had to be reorganised and some, merged. Many of the project managers were not willing to give up their positions, but Ms. L decided to give up her position and applied for a PM course in Sweden.

In 1995, she completed her course and rejoined the department. As a direct result of the course, she received promotion to a strategic position, whereby she had to supervise the various activities of the project managers handling various projects of the department. This position, a sensitive one, is that of Executive Assistant to the Secretary (Minister) of the organisation. Concurrently, she also holds the position of Special Assistant to the Secretary for special projects (Women in Development). In the discharge of her duties, she finds her knowledge of PM and various techniques useful in evaluating and monitoring progress of activities. This is not the only successful part of the case. Apart from the fact that at least 75% of the new skills from the course is applicable to her present daily work, 25% of her skills is used in her being resource person in the internal training courses for the department's various project offices. There are 3-4 such sessions per year, with each session attended by 20-25 employees. In addition, she is also contracted for external training programs and gives lectures on certain topics related to PM at the University of the Philippines and different private business organisations.

Mr. M has been working at the Department (Ministry) of Finance as a Development Management Officer for many years now. In the early 1990s, the United States Agency for International Development (USAID) extended support to the Philippines for the implementation of a nationwide program for taxation of real estates at provincial and municipality level. The purpose of the program was to improve the system for tax assessment and collection by educating local assessors and treasurers on improved tools and techniques. The program was launched in 1991 with a target of 150 projects covering provinces and municipalities throughout the country.

In 1992 Mr. M attended a 7 weeks course in Taiwan, covering international alternative taxation systems and techniques. As he was already familiar with most topics in the course, it only gave him opportunity to exchange ideas and share experience with other participants. In 1995, however, his office and the department recommended

him for a PM course in Sweden. The course in Sweden familiarised him further with project management techniques suitable for application in organisational administration. As soon as he came back from the course, he began instituting changes in the implementation of the USAID-supported program on taxation. Prior to the changes, the program was experiencing some problems that caused a lot of frustration. The situation soon showed improvement. From a status report as of February 1998, it is revealed that the performance of the project batches ( 3,4 and 5 ) which started after 1995 is far better than the project batches (1 and 2) which began prior to 1995. Mr. M applied the techniques he learned from the PM course in Sweden. To date, project completion rate has improved and almost 300 projects have been implemented, double the number of targeted projects.

Aside from running projects, Mr. M also conducts training modules for local officers in the provinces and municipalities. Previously he could only teach taxation methods and systems, but now he also teaches PM. A lot of the techniques in the PM course are included in the training modules, thus providing local officers with new tools for implementing projects. He has gained confidence and greater creditability. In fact he is considered as in-house expert with international skills on the subject. He has not received promotion, but he is grateful for the opportunity to having attended the course in Sweden.

### **Differences between the Philippines and Tanzania/India**

Is there an explanation to the fact that the Philippines is showing a more positive result compared to the other countries? Yes. This can be attributed to the following factors:

(1) The Philippines is the most developed one among the three countries, in terms of technology, infrastructure, political stability, financial systems, just to mention a few. The Philippines has a fairly stable economy with established export channels in different technology fields. It has always been an "open" country to international contact. In addition to its open policy in many areas of business and industry, the Philippines has been intensively implementing its market globalisation initiatives. Of course, it is easier to work or develop and apply technology in an environment that is functioning well.

(2) The Philippine government has created a huge network of supporting agencies, organisations and institutions, covering a number of policy areas such as those in transportation and telecommunications, education, tax revenue, environment, research and development, technology application in industrial sectors, financial support to investment projects, among others. These government bodies are mandated by law to provide support to business and industrial development initiatives, with good budget support from the government, even if the budgets have been decreasing recently.

(3) Compared to the other countries, the Philippines has attracted quite a number of international investments, both in the industrial sector, as well as in different infrastructure projects. There is a representation of a number of American multinational companies operating in the Philippines as a result of the Philippines

close ties to the United States for almost 100 years. There are a good number of European companies as well as other Asian multinational companies that have established manufacturing plants and offices in the country. Sweden has supported the Philippines under the BITS Technical Assistance Program. As a matter of fact, the Philippines has been one of the major recipients of this BITS support for many years now. Being exposed to international standards and requirements, under commercial terms, the Philippines has created and fostered an environment which is conducive to the adoption of global trade and technology standards. These are consistently implemented by government regulatory agencies. The level of awareness and application of such standards, therefore, are quite prevalent and very high among Filipino companies.

(4) The invitation to the Swedish courses and the information on procedures for applications are widely disseminated across industrial, government and academic sectors. The Swedish Embassy itself seems to be very active in promoting the courses, by using different channels to spread the information about the courses. Considering the low number of participants from the private sector, there is need to further evaluate and improve the channel for disseminating information about the courses to the private sector. Regarding the process of selection, there is evidence of a systematic approach as all interviewees/respondents claim that they got the invitations through official channels after which they had to go through a stringent process of selection.

Furthermore, the screening of applicants is systematically organised: 1) first, an appraisal of the applicant by his own organisation, in terms of competence and capacity to grasp the course; 2) second, in most cases, a panel interview/evaluation of the applicants by the Government body National Economic Development Authority (NEDA), which compares the different applicants and makes the final selection in the Philippines; 3) third, the applicants are appraised by the course organiser in Sweden. This system ensures that only people with the proper background, language skills and other relevant capacities are sent to Sweden to attend the courses.

The review provides a number of examples of impact and effects of the programmes. We have chosen to illustrate these with 10 interview experiences, representing the general trends in the 33 interviews we have conducted in India and Tanzania, and 8 examples from the Philippines, representative of the 18 interviews conducted there. We grouped the responses in three categories, virtually no impact, little or uncertain to medium impact, and major positive impact. Whereas the no impact category held equally many cases in all three countries, there were more participants who had a major impact from their training in the Philippines, and besides, within the category of little or medium impact the examples from the Philippines tend more towards medium, and those from the other countries more towards little impact.

The crucial question is whether Sida and the course organisers should be happy and satisfied with this outcome? Previous evaluations concluded that large numbers of participants did not apply their skills (though not quite as many as here), but the evaluators still thought that the substantial effects those achieved who did apply their skills far outweighed the failures of others. This seems to be confirmed here, the impact created by those who make good use of the training far outweighs the cost of

the training programme both for themselves and for those who make little or no use of the training.

There is no doubt that the participants who do apply what they learn in the course, gain substantial benefits for themselves and for the organisations they work. The indications of savings, new job opportunities et cetera point at gains which far outweigh the cost of the training. The challenge is to make sure that 100% of those who attend the course also go back and apply what they learnt. There is no reason for Sida to be satisfied with anything less, and in our opinion the course organisers cannot really be satisfied with their performance until all go back and use their new knowledge.

#### 4. Conclusions and recommendations

The international training programmes are an important part of Swedish technical cooperation. It is an instrument for technology transfer which has proven to be highly cost effective, and it has a potential to introduce major changes at a relatively low cost. Several evaluations have reached similar conclusions, and the results here are in line with these other evaluations.

However, the findings here do differ to some extent. Even though the courses are much appreciated by the participants, indeed as much as other evaluations have shown, the practical results are not as good. There is a group of around 30% who appear to have no practical use of the training, and yet another sizable group of between 20 and 30% who have but little practical use of what they learnt.

We should not forget that the selection of participants from India and Tanzania is likely to give us candidates from environments where the resistance to change - or the resources to realise change initiatives - put more of a constraint on what is possible to achieve. But nevertheless the participants from these countries continue to come to the courses, and these - as well as others - need to be supported to make sure that the training has an impact. The differences between these two countries and the Philippines are significant.

In consequence, we would expect that participants to the programme from more resource constrained countries, or countries where the selection process to the course is obviously flawed, will make less use of the contents. Countries such as most of Sida's programme countries in Africa, some Central American countries, and a few countries in Asia, are less likely to learn much. But participants from middle income countries, or countries where the participants still may be expected to return to an environment where their application of the learning will be supported will have a higher impact, such as many of the former BITS countries, South Africa, and perhaps Botswana and Namibia.

There are three things that can be done to improve the likelihood that the training has an impact:

First, make sure that the right persons are selected to the training programme. It is necessary to interview applicants, to meet and discuss their career prospects with supervisors and managers, and to look at whether they come from an environment which will be conducive to change. The course organisers and Sida headquarters must make better use of embassy personnel for this purpose.

The counter argument may be that the embassies do not have the time or staff resources to get engaged in this job. But, if that is the case, and if the problem cannot be solved, it is better not to send any participants from the country in question. In the

long run nobody gains by wasting money on a training programme which has no effect.

Second, the courses must from the very first day be directed at achieving a practical impact when the participants return home. How this is to be achieved remains up to the practical administration and the pedagogical abilities of each course organiser. But it is probably better to reduce the course content and make sure that there is an impact from what is learnt, than to keep the curriculum as large as it often is.

Third, the training programmes should not end when the participants leave Sweden. The contract between Sida and the course organisers could be changed so that it contains provisions for keeping in touch with the participants, for professional exchanges with them, for support and for acting as discussion partners in their professional careers at home. Sida and the course organisers should work to find ways of integrating further activities in support of organisational change and job behaviour in their contracts.

With changes such as these, we think that the training programmes will stand at better chance of realising their potential. Yet an alternative approach is to concentrate the training programmes to areas where they have high and proven effects, that is, to countries at a higher level of development, where participants come from and return to an enabling environment. At the time of writing, that would mean excluding countries such as Tanzania, India, as well as many others of the least developed countries from the international training programmes.

The two courses we have reviewed were professionally conducted and well designed. They have been part of the technical cooperation for many years, but they have not been static. Contents have changed considerably over the years, reflecting both the wishes of former participants as these were expressed in evaluations, and new developments within each of these professional fields.

However, we found that the objectives of the courses need to be considered, specified and used more actively. The formulation of objectives leaves much to be desired. The objectives are vague, and they do not express a desired outcome. We have also found that they do not reflect the actual course contents any longer. Sida and the course organisers need to make a joint effort to better express what the courses should achieve.

Naturally, there are other and more detailed ways that each course can be improved. But as long as the issues above are not attended, it is not worth meddling with other marginal improvements. The challenge ahead is to make sure that the training has an impact, that it leads to better performance in the organisations the candidates come from. By acting on the three variables above; selecting the right participants, preparing them for their roles as change agents when they return home, and by providing continuous professional support for this role, it should be possible to achieve a higher success rate of the technology transfer.

We found that Sida has abandoned most of the follow-up systems that were developed by BITS. Hence there is little substantive knowledge about the contents of each course, and it appears as the dialogue between Sida and the course organisers is

much concentrated on contract formalities and budget details, but less on what is actually taught, how the subjects are taught, and what the impact is. It is necessary to develop the dialogue between the financier (Sida) and the course organisers so as to focus more consistently on the substance of the training programmes. One important step in so doing is to reconstruct the evaluation system, taking into consideration that times have changed and the courses are more complex now than previously.

A systematic monitoring and evaluation of the international training programmes should build on the following elements:

(1) Personal visits during the conduct of the programme. Representatives from Sida should visit the programme towards the end, but not only for the ceremonial conclusion of the course. They should visit when the course is running so as to get an idea of the progress in class, or on site, to be able to see the quality (or lack thereof) during lectures and group work. Sida representatives must form an opinion on the quality of the interaction between participants, course organisers and teachers. There is no substitute for such a hands on, observation of the programmes. In order to structure the site visits and make the data more comparable, a memorandum of observation points, and questions to ask of organisers, participants and teachers should be developed. Following a visit, these forms should be completed and sent back to the course organiser as a feedback on the monitoring visit from Sida.

(2) When the course comes to an end, Sida should use a standardised format to solicit the opinions on the programme from the participants. This should not be too complicated, and should be general enough to be applicable to all the programmes. An example of such a monitoring instrument is enclosed in annex 6. The course organisers should send one completed questionnaire for each participant to Sida. At Sida, the questionnaires must be entered into a database. A profile should immediately be presented for each course, and the courses should be compared to each other as an exercise in bench-marking.

(3) As we discussed in chapter 2 above, it is necessary to develop a proper grading system. We do not think Sida can do so, nor is it relevant to develop such an instrument for general purposes. A grading system must build on the objectives and content of each course, and should be developed by the course organisers, to be approved by Sida. We suggest that when the contract between Sida and the course organisers are renewed, this is introduced as a mandatory element in the administration.

(4) Whereas the three recommendations presented above focus on follow up and evaluation of the first two levels in our model of evaluation (that is, on participants reactions and knowledge), we need to know more about impact. The only possible road to the development of such knowledge is site visits, to the duty stations of the people who have been for training, preferable a few years after the training has been completed. It mean evaluation of the same nature as we have done here in the Philippines, India and Tanzania.

In order to focus an evaluation, it is suitable to choose one or two courses at a time, with a similar subject. The evaluation of training in the energy sector in Malaysia is a good example, but the evaluation of total training impact in Egypt in retrospect

appears to have been too general. But it is necessary to select a representative choice of countries, as this evaluation has shown that there are systematic differences, which may otherwise give a wrong picture of the achievements of a course.

Perhaps the overarching administrative question is whether Sida should contract the evaluation or do it in-house. In our opinion it is necessary for the personnel at Sida to develop their substantive knowledge of the courses, and taking part in an evaluation presents a good chance of doing so. We suggest that Sida takes a major part in conducting the field work in such impact evaluations, in order to learn from the experience, obtain first hand knowledge, and develop the dialogue with the organisers and clients in the countries invited to nominate participants. This was conducted as a fully externally contracted evaluation, but we suggest it be the last of its kind, and that future evaluations are either conducted in cooperation between an external evaluator and Sida staff, or only by Sida staff.

Hence, we have also been careful to present as much of the evaluation methodology as possible, and all the research instruments are presented in annex 2 to 5, and can of course be used again for future field work. This evaluation should not only be read as a text on the impact of the training programmes, but also as a case manual on how to conduct similar evaluations.

A reasonable level of ambition should be to evaluate the impact of two to three courses every year, and to do so in a comparable fashion so that the results of one course can be used as a bench-marking instrument for other courses.

In the overall design of the routines for systematic monitoring and evaluation, it is necessary to make sure that resources are spent where they are most needed. In our opinion, the majority of resources should be spent on impact evaluation, as suggested under item 4 above. Second priority should be given to the development of grading systems, and following that resources should be allocated to site visits and systematic observation and documentation of the conduct of courses. Even though an important and useful instrument, the elaboration and monitoring of participants reactions is less important - but must nevertheless also be done in order to have a complete coverage of the international training programmes.



## References

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## **Annex 1. Terms of reference for the evaluation**



## **UPPDRAGSBESKRIVNING**

### **Utvärdering av Sida-kurserna Project Management och Total Maintenance Management**

#### **Bakgrund**

I INEC-HIKs verksamhetsuppdrag för 1997 anges att två internationella kurser ska utvärderas. För innevarande år har rubricerade kurser valts. Sida har finansierat dem i 2 år och föregångaren BITS i ett 10-tal år.

#### **Inriktning**

Utvärderingen ska fokuseras på det förändringsarbete och effekter som de genomförda kurserna gett upphov till. Kursdeltagarna ska tillfrågas hur de lyckats applicera sina nya idéer, kunskaper, utbildning och förändringsarbete som omorganisationer, system- och metodutveckling, etc.

#### **Metod och omfattning**

Utvärderingen genomförs dels medelst enkät dels intervjuer på plats. Enkäten utarbetas och skickas till ett 100-tal kursdeltagare från olika länder och deras chefer. Detta för att bli bedöma samstämmigheten i svaren. Indien och Tanzania undantas. Enkätsvaren sammanställs och analyseras.

Med utgångspunkt från enkäten genomförs därefter djupintervjuer med externa konsulter på plats i Indien och Tanzania. Besöken beräknas ta maximalt 2 veckor i anspråk per land.

#### **Rapportering**

Resultaten från enkäterna och intervjuerna sammanställs, analyseras och utvärderas och slutsatser dras i en rapport. Vidare ska rekommendationer och förslag till ev. förändringar i resp. kurs lämnas.

## Tidplan

Enkätundersökningen bör genomföras under juli-augusti. Efter sammanställning och analys bör ifrågakommande intervjuer genomföras i september. En draft till slutrapport bör vara klar i början av oktober.

## Budget

Arvoden;

- Förarbete, intervju kursarrangör	21.600
- Enkät, databas 2v	24.000
- Intervjuer IND	24.000
- Intervjuer TAN	37.800
- Rapport	27.000

Resor;

40.000

Övrigt

15.600

**Totalt**

**190.000**

## **Annex 2      Questionnaire to participants and supervisors**







Sida

Division for International Training

S.

## QUESTIONNAIRE

1. Would you say there has been any significant changes in the job behaviour of the participant since the training took place in Sweden?

- ☐ Much more effective
- ☐ More effective
- ☐ No change
- ☐ Less effective
- ☐ Much less effective

2. How would you range the impact of the training in Sweden in the following areas? Please, grade the impact by marking your answer in the table below:

	Very high	High	Average	Low	Very low
<i>Theoretical knowledge</i>					
<i>Practical skills</i>					
<i>Ideas and visions</i>					
<i>Personal contacts</i>					

3. Is it, in your organization possible to point at any tangible effects of having had a participant in the training programme in Sweden?

☐ Yes

☐ No

If yes, please indicate what these effects are and how they can be measured:

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4. Let us assume that the cost of the training programme is roughly USD 10 000 per person, everything included. Would you say that the benefits of the training, by the large exceed that amount?

- ☐ Yes, the benefits are substantially higher
- ☐ Yes, the benefits are higher
- ☐ The benefits are roughly equal to the cost
- ☐ No, the benefits are lower
- ☐ The benefits are much lower

5. If the full cost of the training was to be born by your organization, would you still nominate a participant?

- ☐ Yes ☐ No

6. How many persons in the organization do you think got access to the knowledge, capabilities, ideas or contacts that your staff member derived during the training programme?

- ☐ More than 20
- ☐ 10 to 20
- ☐ Between 1 and 10
- ☐ None

7. In your opinion, how could we best strengthen the impact of the training programmes? How could they be made more useful to your organization in terms of relevant content, follow up and application of the skills afterwards?

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We are very grateful that you have taken the time to assist us with this evaluation. Your response will be treated confidentially. Your answer is very important for our evaluation and we are most grateful for your kind participation. I trust your cooperation will help us develop and manage training programmes of future benefit to your organization and others.

Yours sincerely,

Kerstin Hedén  
Head of Division



### **Annex 3 Interview guide for meetings with course organisers**



## Frågor angående uppläggning av de internationella kurserna.

### Kursernas mål.

Hur formuleras målen för kurserna?

Har målen ändrats under de senaste åren, och i så fall hur?

Vilken typ av mål är det? (kunskapsmål, attityder, färdigheter?)

Hur följer kursarrangören upp målen?

Anser arrangören att man uppnår målen (gradering?)

### Kursinnehåll.

Detaljerad beskrivning av kursens uppläggning. Motiv och förklaring till varför det ser ut som det gör.

Vilka är de teoretiska momenten, och hur sker undervisningen?

Hur ser de tillämpade momenten ut? Var äger tillämpning rum, hur identifieras platser för praktik, studiebesök, mm?

Hur integreras praktiska och teoretiska moment? Gemensamma lärare, instruktioner, eller annat?

Hur har kursens uppläggning förändrats under de senaste fem åren?

Vilka moment är mest uppskattade av deltagarna?

Finns det några delar som betraktas mera kritiskt, och i så fall varför? Har det skett några förändringar?

Finns det någon röd tråd, eller någon bärande pedagogisk idé i uppläggningsen?

Vad skulle kursarrangören helst lägga till, om det fanns utrymme för något mera i kursen?

Vad skulle man ta bort, om man tvingades skära ned kursen med en eller två dagar?

### **Dokumentation.**

Vad får deltagarna med sig hem av böcker, manualer eller annat material? Språk?

Hur används detta material under själva kursen?

Kompleteras materialet vid senare tillfällen?

### **Lärare.**

Hur många lärare anlitas för kursen?

Var kommer lärarna ifrån och vad har de för kvalifikationer?

Har lärarna någon utlandserfarenhet?

Hur testas man lärarnas språkkunskaper?

Omsättning på lärare under de senaste fem åren?

### **Studiebesök.**

Hur stor del av tiden går åt för studiebesök av skilda slag?

Förändringar i studiebesöksprogrammet under de senaste fem åren?

Hur väljs objekten och vilka svårigheter finns att finna bra objekt?

### **Sociala arrangemang.**

Hotellstandard och måltider?

Fester och liknande?

Möjlighet för deltagarna att knyta kontakter med varandra och andra i Sverige?

### **Utvärdering.**

Vad gör arrangören för att utvärdera kurserna?



## **Annex 4 Interview guide for site visits and meetings with participants**



## Interview protocols

The protocol from company visits is split in two sections; one concerns the questions that the interviewer will address to the entrepreneur, and the other concerns observations at the plant.

### Questions

1. Start with questions about the training programme. How did x (the interviewee) get in contact with the training? What did x know about the training beforehand. Who suggested that x take part and when did x follow the course?
2. What does x think of the programme? Is it useful and practical? What can be said about the teachers? What about the localities for the training programme? What about books? Coverage in terms of topics needed by the entrepreneur? Length of the course?
3. What type of contacts does x have with the training organization or with other participants? Does x hear anything from the organization? Who initiates contacts? What type of follow-up activities are there? Would x like to see them further developed? if so, what in particular would x like to have? How much would it cost and would x be willing to pay?
4. Are the target groups right? Does organisers of the training reach the people who need it? If not, why? How are the courses marketed?
5. What about the expenditures? Are the courses too expensive? should the organizations take a higher fee? How much do they think an ordinary participant would be willing to pay?
6. Now to the company. Let x describe the development of the his organisation. What is the business concept? Growth, employment and profits. Market shares and competition? (Modify for public organisations!)
7. What are they making and how? To what extent has the programme helped production - or in general - performance of the organisation?

8. Ask for practical examples of what x has done differently as a consequence of the programme. Let x show this and make sure that it really exists/takes place. Try to estimate the benefits to the company, eg by calculating savings from a more correct pricing policy or by estimating the rationalization benefits from information systems or personnel policies. But, most important, get practical examples of impact that may be used to illustrate the evaluation report in fact boxes. (This is the most important part of the interview and from experience it takes plenty of time and effort to get to see the real and concrete improvements - and even more to calculate benefits. Perhaps it will take between 1 and 2 hours, and will best be seen during a tour round the firm ).

#### Observations.

1. Where is the material and documentation from the course kept?
2. Does it look used and torn?
3. Is there any concrete evidence of contact with course organisers or with other participants.
4. Are there any examples of things that look different, are done differently, as a result of the programme?

## **Annex 5 Printout of the database of questionnaire results**



## Responses by Question

	Answer	Count	Percent
<i>Which of the following statements most accurately.....?</i>			
		<b>34</b>	
	interesting, use of knowledge	17	50,00%
	interesting, apply occassionally	13	38,24%
	interesting, difficult to apply	1	2,94%
	no interesting	0	0,00%
	no statement	3	8,82%
<i>Please grade aspects.....</i>			
<i>- Theoreticall knowledge</i>			
		<b>34</b>	
	very useful	13	38,24%
	useful	21	61,76%
	not so useful	0	0,00%
	no use at all	0	0,00%
<i>Please grade the aspects.....</i>			
<i>- practical skills</i>			
		<b>34</b>	
	very useful	13	38,24%
	useful	19	55,88%
	not so useful	1	2,94%
	no use at all	0	0,00%
	(no statement)	1	2,94%
<i>Please grade the aspects.....</i>			
<i>- ideas and visions</i>			
		<b>34</b>	
	very useful	20	58,82%

## Responses by Question

	Answer	Count	Percent
	useful	13	38,24%
	not so useful	1	2,94%
	no use at all	0	0,00%
	(no statements)	0	0,00%
<b>Please grade the aspects.....</b>			
<b>- personal contacts</b>			
		<b>34</b>	
	very useful	6	17,65%
	useful	13	38,24%
	not so useful	12	35,29%
	no use at all	1	2,94%
	(no statements)	2	5,88%
<b>Have you been promoted or have you changed jobs?</b>			
		<b>34</b>	
	yes	21	61,76%
	no	13	38,24%
	(no statements)	0	0,00%
<b>Has the training facilitated your promotion?</b>			
		<b>34</b>	
	yes	21	61,76%
	no	9	26,47%
	(no statements)	4	11,76%
<b>What is the relation between your ambitions and your achievements?</b>			
		<b>34</b>	
	apply things to a much higher degree	12	35,29%



## Responses by Question

	Answer	Count	Percent
	done what I thought I would	11	32,35%
	not introduce as many as I expected	11	32,35%
	(no statements)	0	0,00%
<b>Y ambitions to change are...</b>			
		<b>34</b>	
	Far too high	1	2,94%
	High	13	38,24%
	Just right	19	55,88%
	Low	0	0,00%
	Far too low	1	2,94%
	(no statements)	0	0,00%
<b>Please grade the factors.....</b>			
<b>- lack of physical resources</b>			
		<b>34</b>	
	very important	8	23,53%
	important	15	44,12%
	less important	10	29,41%
	of no importance	1	2,94%
	(no statements)	0	0,00%
<b>Please grade the factors.....</b>			
<b>- lack of money and foreign exchange</b>			
		<b>34</b>	
	very important	7	20,59%
	important	12	35,29%
	less important	9	26,47%

## Responses by Question

	Answer	Count	Percent
	of no importance.	6	17,65%
	(no statements)	0	0,00%
<b>Please grade the factors.....</b>			
<b>- organizational policies</b>			
		<b>34</b>	
	very important	12	35,29%
	important	15	44,12%
	less important	6	17,65%
	of no importance	1	2,94%
	(no statements)	0	0,00%
<b>Please grade the factors.....</b>			
<b>- resistance to change</b>			
		<b>34</b>	
	very important	9	26,47%
	important	13	38,24%
	less important	11	32,35%
	of no importance	1	2,94%
	(no statements)	0	0,00%
<b>Please grade the factors.....</b>			
<b>- your own status and influence</b>			
		<b>34</b>	
	very important	5	14,71%
	important	17	50,00%
	less important	8	23,53%
	of no importance	4	11,76%
	(no statements)	0	0,00%

## Responses by Question

	Answer	Count	Percent
<i>Please grade the factors.....</i>			
<i>- lack of trained manpower</i>			
		<b>34</b>	
	very important	6	17,65%
	important	19	55,88%
	less important	9	26,47%
	of no importance	0	0,00%
	(no statements)	0	0,00%
<i>Through which of the following ways have you been in contact with other participants</i>			
<i>- mainly social contacts</i>			
		<b>34</b>	
	yes	31	91,18%
	no	3	8,82%
	(no statements)	0	0,00%
<i>- professional contacts</i>			
		<b>34</b>	
	yes	11	32,35%
	no	23	67,65%
	(no statements)	0	0,00%
<i>Have you met any of the participants from other countries?</i>			
		<b>34</b>	
	yes	4	11,76%
	no	30	88,24%
	(no statements)	0	0,00%

## Responses by Question

	Answer	Count	Percent
<i>Have you met any of the participants from you own country?</i>			
		<b>34</b>	
	yes	21	61,76%
	no	13	38,24%
	(no statements)	0	0,00%
<i>Are you still in contact with the course organizers from Sweden?</i>			
<i>- give newsletters</i>			
		<b>34</b>	
	yes	10	29,41%
	no	24	70,59%
	(no statements)	0	0,00%
<i>-Do you get any social greetings?</i>			
		<b>34</b>	
	yes	16	47,06%
	no	18	52,94%
	(no statements)	0	0,00%
<i>-Have any of the course organizers visited you since the course ended?</i>			
		<b>34</b>	
	yes	4	11,76%
	no	30	88,24%
	(no statements)	0	0,00%
<i>-Have you contacted the course org. for professional advice?</i>			
		<b>34</b>	
	yes	8	23,53%

## Responses by Question

	Answer	Count	Percent
	no	26	76,47%
	(no statements)	0	0,00%

## Responses by Question

	Answer	Count	Percent
<i>Would you say there has been any significant changes in the job behaviour of the participant..?</i>			
		10	
	much more effective	2	20,00%
	more effective	7	70,00%
	no change	1	10,00%
	less effective	0	0,00%
	much less effective	0	0,00%
	no statement	0	0,00%
<i>How would you range the impact..?</i>			
<i>Please grade the aspects.....</i>			
<i>- Theoretical knowledge</i>			
		10	
	very high	3	30,00%
	high	6	60,00%
	average	1	10,00%
	low	0	0,00%
	very low	0	0,00%
<i>actical skills</i>			
		10	
	very high	0	0,00%
	high	7	70,00%
	average	2	20,00%
	low	1	10,00%
	very low	0	0,00%
<i>- Ideas and visions</i>			
		10	
	very high	2	20,00%
	high	6	60,00%
	average	1	10,00%
	low	1	10,00%
	very low	0	0,00%

## Responses by Question

	Answer	Count	Percent
<i>- Personal contacts</i>			
		10	
	very high	1	10,00%
	high	4	40,00%
	average	4	40,00%
	low	0	0,00%
	very low	0	0,00%
	no statement	1	10,00%
<i>Is it possible to point at any tangible effects of having had a participant....?</i>			
		10	
	yes	8	80,00%
	no	2	20,00%
	no statements	0	0,00%
<i>Would you say that the benefits of the training are...</i>			
		10	
	substantially higher	3	30,00%
	higher	5	50,00%
	equal to the costs	1	10,00%
	lower	1	10,00%
	much lower	0	0,00%
<i>Would you still nominate a participant, if the costs had to be born by your org...?</i>			
		10	
	yes	5	50,00%
	no	5	50,00%
	no statement	0	0,00%
<i>How many persons got access to the knowledge...?</i>			
		10	
	more than 20	2	20,00%
	10 to 20	3	30,00%

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## Responses by Question

Answer	Count	Percent
between 1 and 10	3	30,00%
none	2	20,00%
no statement	0	0,00%



**A questionnaire to participants in Sida sponsored  
international training programmes.**

The following questionnaire has been developed by Sida to be used on the completion of all international training programmes. The purpose is to get a fair and comparative basis for the assessments of the participants' reactions to the programme. The questionnaire is directed to you who have taken part in the training programme, and we kindly ask you to fill in the questionnaire according to your present opinion on the programme you have just taken part in. The questionnaire will be handed over to Sida. The views you express will not be disclosed to anybody else, and will be treated confidentially. Sida uses the questionnaire together with other instruments for monitoring and evaluation in order to continuously upgrade the training programmes and make them more relevant and useful for the participants. We take the opportunity to thank you for your contribution to this process of improving the training programmes.

1. Please describe how you got information about the programme?

2. Please describe briefly how you were selected to take part in the programme?

3. What were your most important reasons to apply for the programme?

4. Has the programme fulfilled your expectations?

Yes, fully \_\_\_\_\_

Not quite \_\_\_\_\_

No -----

5. How do you rank the overall quality of the programme on a five graded scale from very good to no good at all?

very good            5            4            3            2            1            No good at all

Comments?

6. How do you rank the quality of the teachers who took part in the programme on a scale from very good to no good at all?

very good            5            4            3            2            1            No good at all

Comments?

7. How do you rank the documentation of the programme, books, pamphlets, overhead printouts etc that you received?

very good            5            4            3            2            1            No good at all

Comments?

8. How do you rank the theoretical level of the programme, its coverage of topics and its familiarity with the most up-to date knowledge in its field?

very good            5            4            3            2            1            No good at all

Comments?

9. How do you rank the practical applicability of the programme?

very good            5            4            3            2            1            No good at all

Comments?

10. How do you rank your own prospects of making use of what you have learnt?

very good            5            4            3            2            1            No good at all

Comments?

11. Were you well briefed and prepared for the programme when coming to Sweden, or to the location where the course took place?

very good                      5                      4                      3                      2                      1                      No good at all

Comments?

12. What is your opinion on the facilities of the course; hotel accommodation, lecture halls, transportation, and meals?

very good                      5                      4                      3                      2                      1                      No good at all

Comments?

13. What is your opinion on the overall reception in Sweden and the social programmes put together by the course organisers?

very good                      5                      4                      3                      2                      1                      No good at all

Comments?

14. Would you like to suggest any action that could improve the training programme for next year?

*Thank you for your cooperation in completing the questionnaire!*

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