HIGHER PRODUCTIVITY
AND A BETTER PLACE
TO WORK
PIACT is designed to promote or support action by member States to set and attain definite objectives aiming at "making work more human". The Programme is thus concerned with improving the quality of working life in all its aspects: for example, the prevention of occupational accidents and diseases, a wider application of the principles of ergonomics, the improvement of the content and organisation of work and of conditions of work in general, a greater concern for the human element in the transfer of technology. To achieve these aims, PIACT makes use of and co-ordinates the traditional means of ILO action, including:

- the preparation and revision of international labour standards;
- tripartite meetings between representatives of governments, employers and workers, including industrial committees to study the problems facing major industries, regional meetings and meetings of experts;
- action-oriented studies and research;
- clearing-house activities, especially through the International Occupational Safety and Health Information Centre (CIS); and
- operational activities, including the despatch of multi-disciplinary teams to assist member States on request.

This publication is the outcome of a PIACT project.
HIGHER PRODUCTIVITY
AND A BETTER PLACE
TO WORK

Practical ideas for owners and managers of small and medium-sized industrial enterprises

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TRAINERS' MANUAL

International Labour Office  Geneva
Preface

This manual explains how to organise and carry out training designed to improve productivity and working conditions in small and medium-sized enterprises. It is based on extensive field experience and careful analysis of the real needs of owners and managers of small factories. In order to encourage entrepreneurs to make concrete improvements on the shop-floor, it emphasises training methods which build upon local experience and involve the participants in action learning.

The Action manual that accompanies this Trainers' manual is designed for entrepreneurs, and it provides ideas for practical action. Both manuals are based on the experience of hundreds of owners and managers of small and medium-sized enterprises who have participated in training programmes organised by the ILO. While sharing their skills and experience, these entrepreneurs learn how to take a fresh look at their own companies in order to apply tangible, low-cost, locally-appropriate measures.

Workers also benefit from action based on these manuals. Low productivity and poor work quality often result from the same difficulties and lack of organisation that can make work hazardous and unpleasant. Moreover, in those factories where management develops a long-term commitment to improvements in productivity, the involvement of workers is part of the strategy of motivation and change.

We are indebted to many individuals and institutions for the ideas and examples used in this book. The entrepreneurs who allowed us into their factories and who contributed their practical knowledge and enthusiasm were of course essential. The training events also could not have occurred without the help of employers' organisations, productivity centres, training institutions and labour inspectorates. We are grateful to the following for substantial contributions: Mr. Allan A. Gibb, Director, Small Business Centre, Durham University Business School, United Kingdom; Mr. David Gold, Training Officer, Occupational Safety and Health Branch, ILO, Geneva; Dr. Peter Hasle, Occupational Health Service, City Council of Copenhagen, Denmark; Mr. Juan Carlos Hiba, Laboratorio de Ergonomía Aplicada, Universidad Nacional de Rosario, Argentina; and Ms. Gabriele Trah, Conditions of Work and Welfare Facilities Branch, ILO, Geneva.

Finally, the organisation of notes, handouts, sketches and other assorted scraps of paper and their various revisions into a final text would not have been possible without the patience and skill of Mrs. Susan Chevalier.

Both the Trainers' manual and the Action manual are intended to meet a specific need and to fill a gap in existing materials concerned with productivity and workplace conditions. We hope that they will be found useful in practice.
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Overview

Introduction

This manual sets out the basic components of a systematic approach to raising productivity and improving working conditions in small and medium-sized manufacturing enterprises. It explains how to organise and carry out programmes using this approach. It also includes some training material, though most of the material is in a separate Action manual for course participants.

The Trainers' manual attempts to take real conditions in small and medium-sized enterprises into consideration. It concentrates on:
- practical advice ("How to", not "You must");
- low-cost solutions; and
- productivity-enhancing, quality-enhancing solutions.

The implementation of this approach is based on the "action training" of owner-managers or entrepreneurs in the small-scale industrial sector. This type of training is quite distinct from the usual classroom style of training. It emphasises voluntary participation based on the expectation of concrete payoffs in terms of productivity and product quality, the use of local examples, practical activities in the participants' enterprises and the formation of groups for mutually supportive consultancy. Above all, it is built on the spread of positive ideas and practices from one enterprise to another rather than on criticism. The Trainers' manual was developed because such innovative training methods require a detailed understanding on the part of the trainer if they are to work well.

This manual is intended for people responsible for organising courses and other types of training which use the methodology and materials developed by the ILO. It is aimed at all those who have an interest in improving productivity and working conditions in the small-scale industrial sector. It will be of particular use to staff of employers' organisations, productivity centres and specialised institutes which operate extension or other training and advisory services for small and medium-sized enterprises, as well as to government agencies responsible for working conditions.

The technical subjects covered include a number of productivity-related improvements in conditions of work, welfare facilities and occupational safety and health. More information is given below under "Technical content of the course". Throughout, the emphasis is placed on starting a process of improvement rather than on the specific improvements that are to be made. This is because initiating an improvement process is especially difficult in small and medium-sized enterprises. The success of efforts to improve working conditions will often depend more on the costs and benefits for the employer than on the severity of the problems themselves.

It should be clearly understood that nothing in this approach is intended as a substitute for legal standards, the work of inspectorates and their supporting institutions, or the introduction of improvements through collective bargaining. Instead, it is hoped that the approach can complement other efforts towards the improvement of working conditions.

This Trainers' manual and its related training materials have been developed under the auspices of the International Programme for the Improvement of Working Conditions and Environment (PIACT) by the Conditions of Work and Welfare Facilities Branch of the International Labour Office, in co-operation with the ILO's Occupational Safety and Health Branch and the ILO Regional Office for Asia and the Pacific. Comments and requests for further information are most welcome. They should be addressed to the Conditions of Work and Welfare Facilities Branch, Working Conditions and Environment Department, International Labour Office, CH-1211 Geneva 22, Switzerland.

1 Definitions of small and medium-sized enterprises vary widely, but the target group may be thought of as enterprises in which the operational management is in the hands of one, or at most two or three, individuals. Most such enterprises have from five to 80 employees.
Objectives

Improvements in productivity and working conditions in small and medium-sized enterprises can be promoted through courses and other training events of varying length and intensity. This manual provides technical and practical information on a range of such activities.

The objectives of such courses are to ensure that at the end of training the participants, who are all managers of small enterprises, will be able to identify potential improvements in working conditions and performance and to develop low-cost solutions based on local experience. In addition, the participants should implement solutions in real-life settings and thereby develop both the conviction that the method actually works and the self-confidence to repeat the experience.

In order to help meet these objectives, this manual:
- provides a basic rationale for the method in terms of the characteristics of small and medium-sized industrial enterprises, the need for improvements and the direct links between conditions of work and productivity;
- sets out some basic principles that have proved useful in flexible approaches to meeting these needs;
- describes the technical materials available and how they can be used to encourage sound, lasting improvements;
- indicates the type of course and training event that might be set up and how they might be organised;
- identifies resource requirements associated with various types of training activity;
- outlines what skills the training staff need;
- indicates a range of evaluation criteria and instruments that might be used for assessment purposes.

The method can be used flexibly in small and medium-sized enterprises in a variety of industries and settings. Emphasis will be placed on the need to adapt approaches to local needs, conditions and resources.

The rationale for the approach – The situation of small and medium-sized enterprises and their workers

Many developing countries, in their programmes for social and economic development, assign an important role to the small-scale industrial sector, which has considerable potential for creating low-capital-cost employment, developing a pool of skilled and semi-skilled workers to meet the requirements of future industrial expansion, promoting industry in rural areas, preventing unplanned urbanisation, and reinforcing links between economically and geographically diverse sectors. In addition, the growth of large enterprises, including those in the public sector, often depends on small enterprises to fulfil requirements for a wide range of material components and sub-assemblies.

One neglected characteristic of the small-scale industrial sector is that it is often in such enterprises that the work is most difficult, accident rates are highest and conditions of work least favourable. Of course, there are those who believe that it is a luxury to spend effort and money on the humanisation of work and on improving the working environment when millions of people have no work at all. It is argued that the first priority must be the creation of employment, and that better working conditions will follow some way behind. Such arguments, however, rest on the assumption that working conditions are divorced from productivity and that improvements in them bring only financial burdens and not benefits to the enterprise or to society as a whole. This assumption is highly questionable. There is ample evidence to demonstrate that better working conditions can result in higher productivity and improvements in the quality of work. Simple measures, such as the regular cleaning of the work-area and machines or the proper storage of raw materials and finished products, can considerably reduce work hazards while upgrading efficiency. Modifications in work-station design, lighting or the working environment can provide similar benefits. The redesign of equipment and organisational improvements may also be important factors in increasing the efficiency and motivation of employees, while reducing fatigue, strain, absenteeism and labour turnover.

While much is known about the improvement of working conditions from a technical standpoint and much has been done in larger enterprises, effective methods of improvement in small enterprises are not readily available. Government agencies in developing countries often find it extremely difficult, if not impossible, to take action in this area. Government officials and specialists responsible for the improvement of working conditions find it difficult to reach small businesses effectively because of the large number of small enterprises, their geographical dispersion and the short life-span of many of them. Attempts that are made are usually related to the enforcement of minimum standards based on detailed statutory legislation through the action of labour inspectorates. It is
widely recognised that there are many difficulties in applying laws and regulations on working conditions in smaller enterprises. In part as a reflection of this, smaller firms are sometimes exempted from legislation. Also, it is difficult to draw up general legislation which is appropriate in widely varying local conditions.

Existing approaches to the improvement of working conditions have sometimes tended to assume that enterprises in the small-scale sector have the same resources as larger companies. Regulatory approaches often concentrate on specifying the conditions which must be met without much concern for the entrepreneur, who may not know how to find a solution within his or her own resource constraints. When the authorities take such an approach, this may, unfortunately, serve to emphasise in the mind of entrepreneurs the notion that standards for working conditions and environment are enforced constraints upon their business activities.

Where there are poor working conditions, owner-managers of small enterprises will probably ascribe them to a number of factors. Perhaps the most important of these is the lack of financial resources for purchasing necessary machines and equipment, particularly equipment designed to increase safety rather than for direct productive use. Shortages of raw materials may force managers to accept poor quality materials as substitutes, some of which may be hazardous to health or cause industrial accidents. Moreover, lack of resources for acquiring equipment may mean enforced use of cheap, second-hand machines and leave little scope for choice of technology. The supply of electricity and other sources of power tends to be unreliable or difficult to obtain, and this affects the choice and the operation of ventilation, lighting and temperature control equipment and inhibits the use of electrical machines, thus increasing physical strain. Small-firm entrepreneurs may also complain of lack of encouragement and technical support from development institutions, which generally pay little attention to problems of working conditions and their solutions. Finally, managers may seek to explain high accident rates in terms of low skill levels, poor attitudes and the unwillingness of workers to maintain equipment properly.

Paradoxically, workers themselves may see little need or scope for the improvement of working conditions. People may have negative attitudes to using personal protective equipment, in part because standard protective gear tends to be uncomfortable and may violate cultural norms. Workers have also been known to dismantle safety devices in the hope of increasing output and incentive pay. Changes in the work environment, ostensibly aimed at improvement, may be resisted because they are seen as threats to job security, flexibility or freedom.

## Constraints and opportunities in dealing with owner-managers

In spite of their economic and social importance, many small enterprises have a very precarious existence. Their problems often relate to:
- finance, since small enterprises often have low capitalisation and little access to loans;
- raw materials, which may vary in quality or speed of delivery;
- product markets, which often demand higher quality, lower cost and greater product variety;
- infrastructure, which can be characterised by communication difficulties, power failures or transport problems;
- plant and equipment, as there is often little space, and machines usually require frequent maintenance and repair;
- the labour market, as workers may have few skills, or be absent frequently or be poorly motivated;
- management, which usually has too many duties, few specialised skills and little access to outside expertise.

The burden of overcoming all these difficulties falls on the owner-manager of the enterprise, who does not usually have specialised staff to deal with separate problems: he or she must handle them all. It is easy to understand why working conditions are often neglected. On the other hand, experience in smaller enterprises quickly shows that only the owner-managers can make improvements happen. They are certainly busy, but they are also essential for any action. That is why the owner-manager is the target of this training approach.

Recognition of the barriers that exist to improving working conditions in small enterprises is one necessary step towards designing suitable training approaches. In designing approaches to overcome these it is, however, important to recognise that the basic characteristics of the small independent company provide opportunities as well as constraints.

Key constraints are that:
- generally, small independently-owned firms will not look actively for outside help, particularly professional help, in formulating improvements.
- This is especially true in terms of working conditions:
such firms may be hostile or at best lukewarm towards approaches from training or assistance institutions. Even those entrepreneurs who have an interest in learning may have prejudices against formal training: they are unlikely to be interested in education and training for its own sake;

the owners' main concern will usually be to maintain the business and solve routine problems. They will have limited time and resources for activities which are not directly linked with short-term profit;

they may have low awareness of ideas for improving their business because of limited experience outside their own company;

the owner considers that he or she is the business, and may therefore take any criticism of the business as a personal slight;

the owner often has an autocratic management style, in which motivating the workers is often a purely economic exercise.

Key opportunities are that:

overall productivity and especially labour productivity are likely to be low and very responsive to improvements;

the owner is generally more accustomed to accepting information and advice by personal, informal approaches;

praise of the business is likely to be accepted very warmly as personal praise of the owner;

the owner-manager is the key decision-maker in the business (and indeed may be the sole decision-maker), and is therefore in a position to implement improvements quickly;

owner-managers are usually practical, action-oriented people;

they are likely to have more respect for advice from other independent owner-managers than from external specialists or formal training programmes;

while they are likely to be autocratic towards their workforce, they usually have at least a paternalistic interest in helping them;

they are likely to be closer to the shop-floor and their workforce than the manager of a large company. They are therefore more likely to understand technical problems and to be capable of taking informal, flexible approaches to solving them.

In summary, while the benefits to small businesses and workers of improvements in working conditions can in general be clearly identified, there are major barriers to achieving them in terms of deficiencies in attitudes, knowledge, skills and resources. These barriers can only be overcome by recognising the opportunities which exist and adapting to them.

### Basic training principles

The training of owner-managers is a complex matter, as the previous section shows. They are successful people who know their own enterprises and problems far better than any outsider. They will tend to resist any approach which is not responsive to their own needs and problems.

Experience has shown that training which follows the six basic principles given below has a very high likelihood of success with owner-managers of small and medium-sized enterprises. These principles are applied throughout this manual in the design of training activities and materials. They are therefore the core of the training approach.

The six principles are:

- **Build on local practice.** Change is best stimulated by starting from the real problems of the company instead of the priorities of outsiders. Approaches designed should be flexible and informal, and carefully geared to the company's capability for action. Generally this means emphasising simple improvements which are already in use in some local enterprises.

- **Focus on achievements.** It is necessary to identify praiseworthy achievements and to avoid criticism. This improves communications with managers and helps to get them involved.

- **Link working conditions with other management goals.** The identification of low-cost solutions to problems of working conditions is not usually a sufficient inducement to change. Managers need to understand that solutions to their everyday production-related problems are tied to improvements in working conditions.

- **Use learning-by-doing.** All learning should be linked with action directed at solving problems. This means concentrating on areas where immediate action can be taken. It also means using the managers' existing knowledge and promoting self-reliance.

- **Encourage exchange of experience.** Local self-reliance and enthusiasm are encouraged by opportunities for discussion with other business managers and visits to other small business premises. It is necessary to build support groups of small business managers and to provide incentives for these groups to continue to work together. This helps to reinforce action and to increase the feeling that the content of the training programme belongs to the group.

- **Promote workers' involvement.** Proposed actions usually depend upon workers' knowledge, motivation and goodwill. Wherever possible, opportunities for harnessing the ideas and energies of the workforce should be taken.
While these principles constitute a lengthy list, they nevertheless represent fundamental guidelines for those who seek to provide assistance to the independent owner-manager.

Technical content

The technical content of each training activity will depend on the specific problems and opportunities found in the participants’ enterprises. However, a number of such problems and opportunities are very common and can safely be assumed that they should be covered. Ways of making presentations about these topics have been devised which take the probable concerns of the owner-managers into account and which follow the basic principles of the approach described above. Technical session guides have been prepared which describe in detail how trainers can cover these topics briefly but effectively. In addition, a separate Action manual is available, which provides further information for the participants on specific technical topics. It includes a checklist, which gives simple suggestions for improvements in various technical areas. The ways these training materials are used are described later in this manual.

It is important to emphasise that these technical materials should be supplemented by examples that come from the participants’ enterprises. One of the most important tasks of the trainers is to gather the necessary information (especially slides) to make sure that presentations are based on local conditions and experience.

The technical approach that has been developed is not meant to be rigidly applied. Different specific problems tend to be important for different groups of participants, depending on the main industries represented, the size of capital investment, the level of technological sophistication and other factors. The technical areas described below are sufficiently broad to cover the main problems in most enterprises, but it is not necessary to cover them all in a single course. Often it will be more useful to cover selected topics in depth.

Throughout the technical content of the course, productivity is constantly emphasised. This is extremely important in view of the voluntary nature of the course. If the owner-managers do not see any likelihood of a productivity gain, they will quickly lose interest.

The technical content of the course is oriented towards solutions rather than towards the problems themselves. Illustrations from the participants’ enterprises should be good examples deserving wide application, not worst-case demonstrations that problems exist.

The technical materials are organised around eight technical themes. Each theme has been chosen because it concerns very common problems in small and medium-sized enterprises that are related to both working conditions and productivity. These technical themes are:

- **Materials storage and handling.** The storage and handling of parts and products is an essential part of all production processes. Done efficiently, it ensures that work flows smoothly and helps to avoid many delays and bottlenecks. However, storage and handling by themselves are not the source of additional value or profit. During these operations, goods do not acquire any new qualities. Just the opposite happens: materials are damaged or deteriorate, capital costs must be paid and accidents occur. For the entrepreneur, improvements in the storage and handling of materials would help to reclaim misused space; to reduce the time wasted searching for tools and materials; to cut the capital costs incurred due to poor storage and handling; to simplify inventory control; to minimise unnecessary operations; and to improve the overall appearance of the factory.

- **Work-station design.** Most work is carried out at work-stations where workers perform the same task hundreds of times per day. The benefits from small improvements are thus multiplied many times. Awkward work postures and motions mean lower productivity and quality as well as greater fatigue. The introduction of simple improvements – such as jigs, fixtures, stable work-surfaces or the placing of tools and materials in easy reach – can have large payoffs.

- **Productive machine safety.** While no-one wants accidents to happen, machine safety is often ignored because it is seen as costly or inefficient. This applies to workers as well as managers. However, using techniques such as modern feeding and ejection devices, it is often possible to increase productivity while at the same time eliminating the hazard. Where guards must be used, they need not be costly and above all they need not reduce productivity.

- **Control of hazardous substances.** Hazardous substances of one kind or another can be found in almost all small and medium-sized enterprises. Exposure to chemical substances may cause fatigue, headaches, dizziness and irritation of the eyes and air passageways, resulting in a reduction of productivity and quality and increased absenteeism and staff turnover. High levels of dust, oil, paints and other sprays, etc., interfere with efficient operations, require extra inspection and cleaning and may spoil materials or final
products. Through simple and inexpensive means, it is possible to control most of these problems.

- **Lighting.** Better lighting and related visual improvements very often increase productivity and reduce difficulties and strain for workers. This is especially important for rapid or detailed work or for quality products. Better lighting does not need to mean higher cost. Use of daylight and regular cleaning and maintenance can improve lighting while reducing the electricity bill.

- **Work-related welfare facilities and services.** Welfare facilities are an essential part of any enterprise. During each working day, workers need to drink water or some other beverage, eat meals and snacks, wash their hands, visit sanitary facilities, and rest and recover from fatigue. Welfare facilities are not something extra, nor a luxury to be attended to when all other conditions are satisfied and productivity is high. Good welfare facilities are essential to higher productivity. They improve the workers’ health, morale, motivation, job satisfaction and attendance.

- **Work premises.** Most small enterprises are located in buildings which were not carefully designed for their current use. In addition, new equipment is often placed wherever there is the most space, which gradually results in a haphazard layout. Much can be done, even with older buildings, to improve ceilings, walls and floors. The impact of simple measures with regard to ventilation, heat and pollution can be dramatic.

- **Work organisation.** Improvements in the way production is organised and scheduled can have a very large impact on both productivity and motivation. Modern techniques of work organisation such as recombining tasks, setting up buffer stocks, introducing multiskilling, developing group work-stations and using product-based organisation have numerous advantages. These include smoother and more efficient work flow, higher product quality, greater flexibility, reduced down-time of expensive machines and reduced need for supervision. These techniques are a source of dangerous competition from large companies: their introduction makes the smaller enterprise more likely to survive and grow.

### Types of training event

It is possible to design a number of different practical programmes and events in the light of local capabilities, needs and conditions. Four basic approaches are described below:

- (a) The comprehensive training course;
- (b) A shorter comprehensive training course;
- (c) A flexible module designed for incorporation in a conventional training programme for small enterprise development;
- (d) A short seminar aimed primarily at creating or improving awareness.

These types of training event are listed in descending order of probable effectiveness and desirability. Whereas approach (a) is the most resource-intensive, it is also the most likely to achieve results in terms of actual improvements in working conditions in companies. It is, however, recognised that resource constraints may dictate the choice of other options. It is indeed possible to build up from one option to another as awareness grows and more resources become available. It is also possible and desirable to prepare “joint programmes” linking both private and public institutions and thus increasing resources and technical capability.

### The comprehensive training course

This manual is built around a specific course design which has been used successfully in various developing countries. The course has been shown to provide the necessary motivation and technical information to ensure that action is taken which improves productivity and working conditions. This “comprehensive training course” consists of eight steps which are illustrated in Figure 1.

The eight steps of the comprehensive course may be described as follows:

- **Step 1. Recruitment of potential participants.** During the weeks or months before the course, appropriate participants are identified and informed about the course and a suitable number agree to participate.

- **Step 2. Trainers visit participants’ enterprises.** During the week preceding the start of the course, and develop course materials (especially slides) reflecting local good practice.

- **Step 3. Trainers visit participants’ enterprises.** During the week preceding the start of the course, and develop course materials (especially slides) reflecting local good practice.

- **Step 4. Checklist exercise and initial workshops.** The actual course begins with a visit by all participants to a factory, where they fill out a checklist covering ideas for improvements. This is later discussed in groups, which make presentations on priority actions. This first half-day training session is completed by the course introduction. On the following two days, half-day workshops cover the main technical content of the course through highly interactive presentations.

- **Step 5. Group company visits and preparation of Action Plans.** The participants form
The core period (Steps 2 to 7) of the comprehensive course lasts about four weeks. The participants attend five half-day training sessions during this period and in addition they hold group meetings and work in their own enterprises.

As will be explained in more detail later in this chapter, the eight steps of the comprehensive course are organised in three main stages covered respectively in Chapters 2, 3 and 4 of this manual:

- Chapter 2: Recruitment and enterprise visits (Steps 1 and 2);
- Chapter 3: Checklist exercise and initial workshops (Step 3);
- Chapter 4: Action Plans and follow-up (Steps 4 to 8).

### A shorter comprehensive course

When the resources required for the full intensive course described in the rest of this manual cannot be found, a shorter "compressed" version of the course can be carried out. It incorporates the main elements of the comprehensive programme but the core training time is reduced from four to two weeks.

The shorter comprehensive course is the same as the comprehensive course through Steps 1, 2 and 3. In other words, recruitment of participants remains the same; the critical step of local enterprise visits by course staff still requires a full week; and the checklist exercise and initial workshops are organised during three half-day sessions just as in the comprehensive course. On the other hand, the time available for participants to work in groups and to carry out improvements is greatly reduced. The checklist exercise and initial workshop are carried out during the first three days of the second week. This is followed by one day for company visits, the preparation of Action Plans and the "small, low-cost and clever" contest. A workshop on the final day, which is mainly devoted to the usual programme of the final workshop, briefly covers the material for the mid-course workshop.

| Step 1 | Recruitment of potential participants |
| Step 2 | Trainer visits to participants' enterprises |
| Step 3 | Checklist exercise and initial workshops |
| Step 4 | Group company visits and preparation of Action Plans |
| Step 5 | Mid-course workshop |
| Step 6 | Improvements in enterprises and preparation of group reports |
| Step 7 | Final workshop |
| Step 8 | Follow-up |

consultancy groups, which visit each others' factories and jointly prepare a list of potential improvements called an "Action Plan". They may also participate in a contest ("small, low-cost and clever") to find the best improvements.

- Step 5. Mid-course workshop. After about a week, the participants all meet again to learn about implementation of improvements through case studies and to present their contest entries.

- Step 6. Improvements in enterprises and preparation of group reports. The participants carry out as many improvements as they can before the final workshop, which follows the mid-course workshop by about a week. They prepare presentations showing their achievements and further plans.

- Step 7. Final workshop. The groups make their presentations, contest winners are announced and the course is formally closed.

- Step 8. Follow-up. The enterprises are supported in making further improvements and their progress is monitored and evaluated.

The core period (Steps 2 to 7) of the comprehensive course lasts about four weeks. The participants attend five half-day training sessions during this period and in addition they hold group meetings and work in their own enterprises.

As will be explained in more detail later in this chapter, the eight steps of the comprehensive course are organised in three main stages covered respectively in Chapters 2, 3 and 4 of this manual:

- Chapter 2: Recruitment and enterprise visits (Steps 1 and 2);
- Chapter 3: Checklist exercise and initial workshops (Step 3);
- Chapter 4: Action Plans and follow-up (Steps 4 to 8).
The follow-up of the shorter comprehensive course is especially important, because the participants will probably have less experience in carrying out improvements, their groups will be less cohesive and they may therefore be less motivated or more easily discouraged.

A flexible module designed for incorporation in a conventional training programme for small enterprise development

The first two types of training course described above are designed as independent projects. However, this method can also be built into existing small enterprise development programmes, for example as part of training in production management.

Incorporating this training method into existing courses is important for a number of reasons. It provides a means of reaching a wider range of companies. It provides an opportunity to link working conditions with other topics, for example production management, new technology or motivation and incentive systems. More generally, it suggests that the improvement of working conditions is a necessary part of general management and supervisory studies.

The approach will depend on the characteristics of the existing course. Care should be taken not to duplicate parts of the existing programme, and opportunities to build upon existing content should be examined carefully. The outcome might be either the addition of an independent module to an existing programme or the insertion of a number of sessions at appropriate points.

Every effort should be made to follow as many as possible of the fundamental principles of the comprehensive programme. This applies especially to the use of material obtained from the participants' companies; the use of checklists and factory visits; the formation of groups; the reinforcement of good practice; making an Action Plan for the enterprise; and arranging for follow-up support within the enterprise.

This approach begins with the planning of an appropriate course programme. Allocation of course hours is determined after consultation with the institution organising the course. Preferably, four to six full days should be allocated.

If the participants are owner-managers of nearby factories, it may be possible to integrate all the steps of the intensive programme into the course schedule. However, in many cases the trainees may not be from local enterprises. Sometimes, for example, the trainees may be developing entrepreneurial skills in order to start their own enterprises later. In what follows, therefore, it is assumed that it is not possible to follow the same pattern as the intensive course, in particular as regards carrying out improvements in the participants' own enterprises.

In such cases, the training can be organised in technical sessions and group work as described below.

**Technical sessions.** In the equivalent of two or three full-time days, the content of the initial workshops and the checklist exercise from the intensive course is covered. Local examples should be used to the greatest possible extent. It is essential that the checklist exercise be carried out in an operating factory.

**Group work.** Groups should then be formed to develop Action Plans. Each group should be assigned to a local factory, preferably a medium-sized enterprise with a variety of work processes, such as are found in the metalworking and woodworking industries. On the basis of factory visits each group prepares a presentation to be made to the factory management. This should contain proposals for action that are likely to be acceptable to the management. The group should be prepared to defend its Action Plan and to persuade management to implement it.

This group work may continue for the equivalent of two to three full-time days, preferably spread over a period of one to two weeks. If there is time, a preliminary presentation should be made by each group to the course as a whole. This helps each group to improve its final presentation.

When proposed Action Plans are presented by each group to factory management, the factory owner or a senior person who can make decisions about improvements should be present. It is best to make the presentations on the factory premises. The Action Plans should be discussed to examine their feasibility. No more than three hours should be spent per factory.

Where possible, some of the participants may follow up the implementation of the Action Plans. The results may be fed back to the course participants at a later stage.

**A short awareness-raising seminar**

Whereas the ideal approach is one of company involvement and follow-up action, the material developed for this programme can be used to
create general awareness of opportunities for improving working conditions and the benefits that might accrue. While this option is much less likely to lead to immediate improvements, it can nevertheless be used as a means of exploring the possibility of local linkages and co-operation for future activities.

The seminar should therefore follow the lines of the checklist exercise and initial workshops as set out in the comprehensive approach. While the materials contained in this Trainers' manual are available for use, it is highly desirable that local examples be found and built into the programme. There should also be constant exploration of the opportunities for further follow-up by means of seminars, company visits or support activities.

A one-day seminar might be organised. The first half-day would consist of a checklist application including group discussions and presentations followed by the introduction and the "survival exercise". The second half-day would be taken up by selected technical topics, such as materials handling and work-station design; and distribution of the Action manual. Time should be reserved for group discussions and presentations on follow-up.

Resource requirements

Resource requirements will of course depend on the type of training event. This section covers resource requirements for the comprehensive course. For other events, fewer resources would be required.

Staff requirements. See the next section for some general points. Experience has shown that a relatively large training team is needed. The local organising institution should have experienced personnel to carry out administrative work, prepare training aids, arrange the training facilities, etc. At a minimum, the following staff will be required:

- Senior trainers. The equivalent of ten or more full-time work-weeks is required. Ideally this time should be divided among three senior trainers. However, there are only a few days on which all trainers are needed full-time.
- Group co-ordinators. At least three people are needed, more if the number of participant groups is larger. They are normally needed full-time throughout the period of factory visits and training, which lasts four to six weeks.
- Secretarial support. At least one full-time secretary is needed for the period of factory visits and training. Additional help is often very useful. Some part-time secretarial work is required for the period of recruitment.
- Photographers, graphic artists, drivers, etc., may be required depending on the skills of the trainers and local conditions.

Facilities and equipment. A single training room is usually sufficient. If possible, it should be large enough to seat all the participants at tables in groups of six or eight. The training room should have equipment for slide projection and overhead transparency projection. Adequate consumable supplies should be provided both for trainers (blank transparencies for the overhead projector, marking pens, boards or flip charts, poster paper, tape, etc.) and participants (paper, pens, perhaps a folder). Several documents will need to be prepared and reproduced, which means that a typewriter, drawing equipment and facilities for photocopies should be nearby. The trainers, group co-ordinators and other staff will need office space. At least one telephone is needed; it should be reserved exclusively for the training course. A great deal of photography is required. Depending on the way factory visits are organised, two or three cameras with professional flash equipment would be used. Roughly 1,000 slides would be taken. It is especially important to have an arrangement for very rapid development and mounting of the slides. In some courses, videotape equipment will be used. Finally, each participant should have a copy of the Action manual and extra copies of the checklist.

Transport. Because each participant enterprise is to be visited before the course starts, there is a need to arrange for a considerable amount of transport. Once group work begins, the group co-ordinators will need to visit enterprises. For the checklist exercise, a bus will be needed to take the participants to the factory and bring them back. Transport time and expense can be greatly reduced if the participants' factories are located close together. This is worth extra effort during the recruitment stage (see Chapter 2).

Other. It is wise to foresee meals for participants after the main training sessions (checklist exercise, initial workshops, mid-course workshop, final workshop). These training sessions are usually held after normal working hours and tend to finish rather late. In addition, taking meals together is a very important way of encouraging the formation of informal groups. In some courses, translation and interpretation may be necessary. A last item to consider is certificates for the participants, to be distributed at the end of the course.

Training staff

The training method outlined in this guide makes extensive demands on the skills and knowledge of
trainers. It requires the ability to work with both individuals and groups. It also presents the challenge of having to develop "live" material out of which general principles need to be drawn.

Senior trainers

The qualifications of the senior trainers can be drawn from the particular key tasks that they are to perform. These are:

- recruiting owners of companies as participants;
- motivating them to work together on a continuing basis;
- analysing in depth their problem areas in working conditions;
- preparing "live" material;
- organising workshops, group work, discussions and presentations;
- following up after the course on a one-to-one basis at the enterprise with a manager.

People with many of the skills and much of the knowledge required for these tasks will already be present in most training institutions. The most specific requirement is, however, that of in-depth knowledge of working conditions. This includes an understanding of the links between technology, industrial engineering and the work environment. At least one person should be completely familiar with the content and rationale of each of the chapters of the Action manual. Moreover, the trainers should be experienced in diagnosing problems and opportunities and providing advice about practical, low-cost solutions in these fields.

In addition, the trainers will require:

- sound inter-personal skills in facilitating both individual and group action and learning;
- analytical and problem-solving skills, particularly as applied to small companies;
- awareness of the local environment and, in particular, close contact with specialists and advisers who may be brought in to help in solving specific problems;
- specialised skills, or access to such skills, in the fields of audio-visual presentation and case study writing.

The backgrounds of the specific individuals who may be asked to implement the programme will vary. Staff may be drawn from extension services, specialist small-scale industry training institutes, labour institutes, productivity associations, local educational institutions or local government departments.

Group co-ordinators

As the name implies, group co-ordinators have a crucial role to play in group work. They are responsible for seeing that each group carries out its assignments. The group co-ordinators should intervene at every stage of the course, but for convenience their main duties are all described at this point:

- Enterprise visits (see Chapter 2). Group co-ordinators will often be the people who first contact the owner-managers who will participate in the training course. They also participate in the initial visits and in some cases will carry out initial visits by themselves. By the end of the visits, they should be acquainted with many of the participants and with the conditions in their factories.

- Checklist exercise and initial workshops (see Chapter 3). The checklist exercise and initial workshops offer further opportunities to get to know the participants and to facilitate the formation of participant groups. The group co-ordinators help by taking every opportunity to talk informally with participants. When the main working groups are formed, each is assigned a group co-ordinator.

- Between the initial workshops and the mid-course workshop (see Chapter 4). During this period the group co-ordinators will need to be especially active. They must succeed in holding a meeting and as many joint enterprise visits as possible with the participants in their group. They must also ensure that the Action Plan form (see Chapter 4, Step 4) is filled out and that it contains as many different types of improvement and as much detail as possible.

- Between the mid-course workshop and the final workshop (see Chapter 4). In this period there is less need for group meetings, though at least one is useful. More important is to document the improvements made and planned in the group's enterprises (slides, overhead transparencies) and to help the group's representative prepare the final presentation. The group co-ordinator should visit each enterprise, if possible with the representative and other group members, to photograph improvements (before-and-after slides are especially effective, but they usually require two visits). It is the group co-ordinator's responsibility to make sure that the representative is well-prepared and has rehearsed his or her presentation.

Because group co-ordinators are the key contact persons for the participants throughout the course, it is very useful for them to know the participants from the start. It is especially helpful if the group co-ordinators have some contact with prospective participants at an earlier stage, for example as part of the activities of an institute serving small-scale industry.
While it is possible to make a distinction between the senior trainers and the group co-ordinators, in practice many specific activities may be handled by one or another of the resource persons without excessive rigidity about roles. For example, a group co-ordinator with engineering skills or experience could be asked to make the presentation on materials handling or another topic. Everyone may need to help overcome practical difficulties, to take photographs or to provide advice during factory visits.

There are three main types of supporting material contained in this Trainers' manual:
- *worksheets* for internal use of training staff at various stages of the course;
- *models*, that is examples of documents such as course programmes and press releases which can be adapted to local circumstances; and
- *guides* which explain how to carry out course activities or give additional information, in particular *technical session guides* which describe how each technical session may be carried out.

Chapters 2 to 4 of this manual

At this point, the reader has been introduced to the objectives and content of training programmes which can be developed using this Trainers' manual. Chapters 2 to 4 of the manual go into considerable detail concerning how such training can be carried out in the specific case of the comprehensive course. Much of the information can be used in other types of training event.

This manual has been designed to make the organisation of the training course as easy and as effective as possible. Chapters 2, 3 and 4 cover the content and organisation of each major stage in the course. They specify the objectives, activities, available supporting materials, timing and output or results on a step-by-step basis. At the end of the book are found supporting materials which can be used to produce course documentation and which provide guidance on how each activity may be conducted.

It should be clear that the organisation of training in this area is no simple matter. The training methodology departs substantially from usual practice and may not be immediately understood by everyone concerned. Recruitment of participants is likely to be difficult. Insistence on local examples demands considerable extra work. The range of topics covered is wide and the emphasis on productivity requires practical as well as theoretical knowledge. Above all, the emphasis on actually carrying out improvements means that both trainers and participants must work harder than they may initially expect.

The reward for all this effort is that improvements occur and continue to occur, benefiting both managers and workers.

Approaches to small firms must reflect the local situation and the capabilities both of enterprises and of training institutions. Support for small business development is most effective at the local level. It is therefore hoped that the ideas in this manual will be used flexibly and imaginatively.
Participant recruitment and enterprise visits

Introduction

This chapter covers the first two steps of the comprehensive training course. These two steps are especially important. Experience shows that it is very easy to underestimate the time and resources required to recruit interested participants and carry out visits to each of their enterprises. It should therefore be kept in mind that this is a voluntary programme about a subject that is not likely to seem a high priority to small businesses. Once the actual training starts, there are many possibilities for convincing the participants that they should continue. The work prior to this, however, requires special effort. This is particularly true if no course had been organised in the area previously, leaving no possibility of basing recruitment on testimonials from previous participants.

A second reason that this is a critical stage of the course is that it is in this period that local examples are gathered for use during the initial workshops. These examples are the proof to participants that the course is realistically aimed at conditions in their own enterprises. They are also the most convincing evidence that improvements are feasible and that they have productivity benefits. However, it is quite common for difficulties to arise in gathering this essential local material, for example in obtaining permission to take photographs, in the quality of photography and in the time available for film development and slide selection.

Marketing the programme

The difficulties in encouraging individual owner-managers to take an interest in the improvement of working conditions and occupational safety and health have been outlined in Chapter 1. It has been emphasised that it is important for this reason to link the programme with employers' associations or other organisations which already have credibility and regular contact with small businesses. It may be necessary to develop links with institutions which can provide some financial support. It may also be possible to interest large companies, which have a vested interest in improving the quality of their suppliers. Bearing these points in mind a co-ordinated approach to marketing the programme may include:
- identifying an appropriate local network of business and trade associations through which the programme might be channelled;
- the careful selection of associations and interested parties who may become partners in a joint approach;
- giving ownership of the programme as far as possible to the associations but with adequate monitoring and support to ensure that results are achieved;
- emphasis on the benefits from the approach in terms of the increased productivity that can be achieved at relatively low cost;
- concentration on selling the programme by means of person-to-person contacts with owner-managers rather than by means of letters or other types of formal communication;
- enhancing the prestige of the programme by initial seminars and presentations involving local personalities, particularly those credible in the local business community;
- attraction of press publicity not by formal advertising but by informal relations and preparation of copy describing the expected results of the programme.

Step 1: Recruitment of prospective participants

The objective of this step is to ensure that an appropriate number of participants take part and that they have the characteristics likely to lead to a successful course.

The main activities are:
- to select a locality or local industries where there are clear needs for improvement in working conditions and productivity;
- to locate a group of manufacturing companies with potential interest in participating in the programme;
- to make a first contact with the companies.
It is best to identify a local group of companies which as far as possible has the following characteristics:
- they are already members of an existing contact group or association and therefore have some tradition of meeting together and some knowledge of each other;
- they are not too disparate in size;
- they are not in direct competition (though groups of participants from the same industries are desirable);
- they are located within easy travelling distance of each other;
- they are owner-managed.

It is highly desirable that initial approaches to small firms be:
- aimed at the owner-manager. Dealing with lower grades of management is likely to reduce considerably the impact on the company;
- direct and personal. This means approaching each of the possible participants on a personal basis by visits to their establishment;
- organised through some existing channel in which the owner-manager has confidence, such as the employers' organisation or productivity association;
- as informal as possible. The programme must not be seen to be concerned with enforcement of rules or audit;
- concerned with identifying and building upon existing good practices rather than concentrating on problems. This will help avoid initial difficulties of resistance, suspicion and embarrassment;
- designed to indicate to owner-managers that participation is voluntary, that they can expect real productivity benefits and that not a great deal of their time or company resources will be taken up.

The first step towards this could be to approach local associations and invite them to a short meeting to provide a general introduction to the objectives of the programme and to present the anticipated results. At this point it is important to identify the key members of the association and particularly those who seem most interested. The aim should be to involve them in a joint approach with the other resource persons.

The time taken for this step will vary, but should be limited to a few weeks.

Supporting materials for initial selection and recruitment include:
- a guide that introduces the training approach and contains the main points that should be covered in discussions or presentations; and
- a model of a promotional brochure for distribution to potential participants.

The output from this step should be the identification of about forty local independent small businesses with whom an initial contact has been made to arrange visits.

**Step 2: Trainers visit participants' enterprises**

This step involves a visit to each company by a member of the training staff, preferably accompanied by a group co-ordinator and a member of the association now jointly involved in the programme.

The objective of these visits is to ensure that participants understand the purpose of the course, that they will attend the initial workshops and that positive examples from their enterprises are available.

The main activities are:
- to introduce the programme to the owner-manager;
- to encourage the owner's interest in the programme and overcome any initial suspicions;
- to obtain a clear view of working conditions and productivity in the company and the potential (recognised and unrecognised) for improvement;
- to identify examples of good practice and obtain slides which may be used later for the initial workshops.

Actual contacts with owner-managers who are potential participants in the course should be carefully planned. If a local association has agreed to a joint approach, it should be given a leading role. However, it is usually necessary for training staff to take the initiative. This is a good possibility for early involvement of the group co-ordinators, who can visit the participants' factories to confirm their interest. These early contacts should carefully follow the principles for initial contacts described in the preceding section. In particular, care should be taken to ensure that owners themselves are interested in participating.

In these visits any notion of "inspecting" or "auditing" the company in a formal fashion must be avoided. Guidelines concerning the areas which should be photographed informally during the visit are set out in a set of instructions in the supporting materials. There should be complete openness about any camera work. While the visit should enable both problems and opportunities to be identified, there should not be any mention of problems during these visits (unless the
owner-manager raises them). The visit should concentrate upon picking up the achievements of the company, even if some seem to have little to do with working conditions. Permission to photograph positive examples must be sought from the owner-manager (with care taken to avoid any areas of confidentiality) and permission obtained to use them in future workshops.

The supporting materials for this step are: a model promotional brochure for participants (the same as for Step 1); a guide to taking slides during initial visits; and a worksheet which is a form for a preliminary list of participants.

As regards timing, each visit to a company should last no more than two hours. If two or three teams are involved and the initial recruitment has been done carefully, all visits may be completed within a week.

The output from this step is a list of about thirty confirmed participants and the local examples for the initial workshops. Two or three possible enterprises for the checklist exercise should also be identified. In addition, a good set of slides for each technical subject covered in the course should be taken, developed and classified by topic.
Checklist exercise and initial workshops

Introduction

Chapter 3 concerns a single step of the training course, during which the essential technical content of the course is covered.

Because of the variety of technical subjects and the need to bring out the relationship of each to productivity, detailed guidance has been developed on the ways in which the training can be carried out. After Step 3 is described below, the rest of the chapter is devoted to covering the ways to conduct the checklist exercise, the course introduction and the technical sessions.

The checklist exercise and initial workshops are also important because it is in this phase of the course that working groups are established. The importance of these groups and the ways they can be successfully formed are also described in this chapter.

Step 3: Checklist exercise and initial workshops

The checklist exercise and initial workshops should take place as soon as possible after the completion of the company visits. They should be organised at a location convenient to the participant companies.

The objectives of the checklist exercise and initial workshops are:

- to open up communication between the participant owner-managers;
- to convince the participants of the need for low-cost, productivity-enhancing improvements in their own enterprises;
- to raise awareness and develop the participants' knowledge concerning the technical content of the course;
- to develop the participants' ability to identify potential improvements in their own enterprises;
- to stimulate interest in continued participation in course activities.

The main activities are a factory visit followed by group discussions (checklist exercise) and highly participative technical training sessions (initial workshops). Work groups are set up and all course activities are explained.

The checklist exercise is carried out in one of the participants' factories while it is operating. Time is also required for group work afterwards. Half a day is sufficient if the activity is well organised. The checklist exercise is followed by the course introduction and, if desired, a formal opening ceremony.

It is suggested to hold half-day workshops on the two days following the checklist exercise and course introduction. Three workshops would permit shorter hours or more group work.

The supporting materials for this step are particularly extensive. They consist of:

- a model course programme;
- a guide on the checklist exercise;
- a guide on the course introduction and "survival and growth" exercise;
- technical session guides on:
  - materials storage and handling;
  - work-station design;
  - productive machine safety;
  - control of hazardous substances;
  - lighting;
  - work-related welfare facilities;
  - premises;
  - work organisation;
- a guide on group work, covering the setting up of groups, group work on Action Plans and the "small, low-cost and clever" contest.

In addition, it is at the end of this stage of the course that the Action manual will be distributed and used. There will also be a need for extra copies of the checklist.

The checklist exercise

The checklist exercise is the first training activity of the course. It has been placed first for several
reasons: to convince the participants that this is not "just another course"; to emphasise the practical orientation of course activities; to show participants that their knowledge and experience are respected by the trainers; to provide a common source of examples; to introduce the main subjects covered by the course; to give a start to group work and more generally to participant involvement; and lastly to promote the use of a practical tool with many applications.

The structure of the exercise is simple. The participants are given a checklist and, after a brief introduction, they mark appropriate responses while observing a factory and asking questions. They then are divided into groups which discuss the results and present their views on priority actions.

The checklist has been designed in a very specific way. It is a "corrective" checklist, that is a list of solutions rather than of problems or subject areas. It does not require specialised knowledge to answer. Because of its practical importance, the checklist has been included in the Action manual (Chapter 2). However, the Action manual should not be distributed at the start of the course, so extra copies of the checklist are needed.

A detailed guide in the supporting materials explains the practical details of organising the checklist exercise.

The course introduction and "survival and growth" exercise

Once the checklist exercise is complete, the participants are ready for an introduction to the course. The introduction follows the checklist exercise because the exercise gives a way of illustrating the approach and content of the course with concrete examples.

Like all other parts of the course, the introduction is not simply a speech or lecture. It includes an audience-participation exercise on "survival and growth" which brings home the importance and relevance of the topics covered.

The course introduction and "survival and growth" exercise are described in detail in a guide in the supporting materials.

After the introduction (but never before it), a formal opening ceremony can be organised. Depending on local customs, it may be wise to give less emphasis to the formal opening. If there are important speakers or press coverage, this should be arranged at a closing ceremony, where the achievements of the participants will be a most interesting source of inspiration.

Technical sessions

Introduction

There are at least three strong reasons why traditional lectures are not used in technical sessions: the goal is more to increase awareness and to motivate the participants to start practical improvements than to provide additional knowledge or to upgrade skills; the audience consists of mature, self-confident entrepreneurs who don't like to be lectured and who value their time greatly; and the activities of the sessions need to build cohesive work groups as well as to transfer information. This means that trainers need to examine their training techniques carefully. Above all the trainer should:

- be more concerned with action than with technical content;
- emphasise practical ideas rather than general theory;
- generate discussion and exchange of experience instead of "teaching";
- build on strengths, achievements and positive experiences rather than weaknesses and problems;
- become a consultant to the participants instead of a teacher.

Training facilities and materials

Appropriate training facilities and the proper use of training materials are critical to the success of the technical sessions.

Make sure that the workshops are held as close as possible to most of the participating enterprises. Long travelling distances inevitably result in absences and lateness.

Workshops can be organised in a vocational training centre, hotel, meeting hall owned by local business associations or even at one of the participating enterprises. At least three rooms are needed:

- a training room large enough to accommodate comfortably all the participants and observers (not less than 100 sq.m.). It should have adequate power sources for projectors (check whether they are operational) and it should be possible to darken the room. There should be sufficient ventilation, even with the windows blacked out;
- a hall or separate room to be used for taking snacks during session breaks;
a staff room for the trainers and course organisers with furniture, power sources and a telephone.

**Visual aids**

Visual aid equipment and its arrangement should be closely checked as the whole training programme is based on the constant use of visual material. You will need:

- a 35 mm slide projector with a spare bulb, at least two slide trays, an extension cord, a voltage regulator (if there is considerable voltage fluctuation) and a small support table. The projector should be carefully tested well in advance and just prior to the workshops with the slides to be used. During the workshops, there should be someone in the room who knows how to change a bulb and how to operate the projector manually if there is a mechanical failure;

- an overhead projector powerful enough to give sufficient projection even when the lights are on. It should have a spare bulb (which someone in the room knows how to replace quickly); an extension cord and voltage regulator, if required; and blank transparency sheets and special felt pens (avoid light colours). Make sure in advance that all transparencies can be easily read, even from the back row. A fixture may be required to hold the transparency down if there is much air motion;

- a blackboard or flip chart. There are many versions, but a flip chart is often the best choice. Earlier points can be referred to again if necessary since they are not erased, and important sheets can be detached and attached to the wall for easy reference;

- other items such as a pointer (often forgotten), tape or thumbtacks, marker pens or chalk.

**Training room arrangement**

Seating arrangements can have a dramatic impact on the work atmosphere and level of participation during the workshops. To involve and motivate the participants, you should avoid the "back to school" image. Don't accept a traditional arrangement with rows of chairs or desks. Instead, make sure that the seating plan allows the participants to have face-to-face discussion. It is even more important that the seating arrangement allows group work without major changes. Finally, the position of the trainer is very important. There should be no hint of lecturing or "talking down".

It is strongly suggested that you adopt the kind of seating arrangements shown in Figure 2. Note that each group is clustered around a table and all can see the screens easily.

**Organising the session**

Because many subjects must be covered, and above all because there are very strict limits on the length of time during which interest and learning can be maintained, no technical session should exceed 45 minutes. Experience has shown that longer sessions are serious threats to the course. It has also shown that many trainers habitually exceed time limits. The very first step towards a good technical session is to make sure that it does not take too long.
Each session begins with an introduction and ends with a summary and conclusions. In between, the trainer needs to get across some elements of technical content, which is done through the use of simple rules. There is also a need for involvement and motivation of the participants, which is provided through exercises. These four main elements of the session — introduction, rules, exercises and summary and conclusions — are described separately below. In each case, you should first be familiar with the relevant chapter in the Action manual. Then you can use the technical session guide for the topic found in the supporting materials at the end of this book.

The introduction

Tasks: To raise the participants' interest and to indicate the scope and importance of the issues to be discussed.

Trap No. 1: Once we have started with the introduction, we find it very difficult to stop it.

To have a well-balanced session, the introduction should be completed in two to three minutes. It is therefore essential to avoid the traditional "general introduction". Instead, try to capture the attention of the participants by giving a few striking or intriguing facts or ideas, such as "materials handling doesn't add any value — just cost". Another way to start is to recall a relevant outstanding positive example which you came across at one of the participating companies. You can also use a transparency or poster to display important practical ideas to be discussed and indicate, if possible, potential benefits. The "how to" approach works well. For example: "How to add 20 per cent to production space by changing the storage of materials". It is beneficial for the course as a whole to start each technical session by linking its content with the previous or following sessions.

Don't waste time writing. Show a transparency or use a poster.

Rules

Task: To demonstrate the benefits of improvements in a specific technical area.

Trap No. 2: The specialist wants to give full and comprehensive coverage of the subject. Unfortunately, this is absolutely impossible given the time limits. It also leads to lecturing rather than participant involvement.

Each chapter in the Action manual is organised according to rules. These are repeated in the technical session guide on the same topic. The rules are very useful for the technical sessions because they are short and easy to remember and because they are practical and action-oriented.

During each technical session, the participants should be exposed to the relevant rules through an overhead project or poster. However, do not try to cover the substance of every rule. You will end up going too quickly and too superficially. Pick three or four of the most important rules and be sure that you have at least two or three good slides of positive examples for each.

In most sessions, you should start by showing slides of good examples of following the rule. Explain the advantages and invite comments from the participants. You can then present a transparency with the relevant rule and make a few generalising and concluding remarks. Most rules should take five to seven minutes to cover.

Exercises

Task: To help the participants to accept new ideas and approaches and to give them the motivation and self-confidence to try them out.

Trap No. 3: The participants may be reluctant to take part or, conversely, they may become so active that the trainer loses control of the situation.

Exercises provide opportunities to illustrate a rule or make a point in a participative way. The result is greater interest, more learning and higher motivation. When people feel they can make a contribution during a technical session, they are more alert and more convinced by the result. For the trainer, exercises are an opportunity to move toward the role of consultant instead of teacher.
Because of time constraints, exercises need to have a carefully designed structure. The exercises recommended in the manual have been tested and improved through experience. They are relatively easy to carry out successfully in a short period of time and to keep under control.

The simplest way to generate involvement is to ask a question of the participants. Ideally, the question should have several correct answers which can be written on a board, chart or transparency. For example, you could ask “What are the advantages of putting storage racks on wheels?”. If you have the main points already in mind, you can usually encourage and hint sufficiently to have a good set of answers in one or two minutes. This kind of multiple-answer question is good because it gives everyone a chance to think about their own factory and to make proposals.

A more elaborate version of asking a question and receiving multiple replies is a simple form of “brainstorming”. The trainer asks a question (preferably by writing it as a heading on a large board) and asks for ideas. It should be explained to the participants that there should be no criticism or discussion – the goal is to make the list as complete as possible. It is necessary to set a strict time limit of seven or eight minutes. This type of exercise is useful when some of the points are not obvious and when a long or complete list is needed. The “survival and growth” exercise during the course introduction is of this type.

In a few cases, it is possible to have an exercise which is a simple demonstration. This is done, for example, in the work-station design session by asking participants not to use backrests for a few minutes and then asking how their backs feel. The “push and pull” ventilation demonstration from the hazardous substances session is another example.

More complex exercises can be devised when it is necessary to convince the participants of something important. However, exercises which require several steps take a lot of time from a short session, so they must be really important and effective if they are to be worthwhile. The technical session guides on welfare facilities and on work organisation contain complex, multi-step exercises.

In many of the technical session guides, it is suggested that “mini-case studies” be used. These are particularly effective as review exercises. The trainer starts by presenting the case, which should be a real example from one of the enterprises. A case from the checklist factory is particularly effective because it has been seen by all the participants. Slides are shown of a specific work area from several angles. The trainer then asks the participants to suggest “good points” and “ideas for improvement”, which are written on a transparency, board or chart. With some encouragement, the participants should cover many of the important points of the presentation. The choice of a case which is particularly illustrative will help.

Summary and conclusions

Task: To give a systematic picture of the subject that was discussed.

Trap No. 4: You must start this on time, which is very difficult.

Never omit the summary, even if you have to sacrifice a rule or exercise. Your final words will be forgotten last. A good summary helps to bring together isolated ideas discussed during the session; to stress priorities; to eliminate misunderstandings; to fill any gaps by adding missing pieces of information; and to motivate participants to action.

In general, the summary and conclusions should have a very simple format. Use a transparency or poster with the complete list of rules, including those you did not cover. Make brief comments linked with what was discussed at the session. You may consider simultaneous projection of slides to illustrate the rules but do not overdo this. Use no more than two slides per rule. Refer to the relevant chapter of the Action manual. Invite questions and comments. Remember that the summary and conclusions should take only five to seven minutes and that you must end on time.

Practical hints on how to conduct technical sessions

The designers of this programme know from their own experience how difficult it is to conduct a technical session of this type even for the experienced trainer. We have already discussed ways of avoiding some traps connected with the structure of the sessions. Below you will find some more general advice.

Welcome questions, comments, interventions. Interactive sessions have important advantages. They provide constant feedback from the participants, allow the release of tension, and
promote a higher level of interest. Above all, active participants are more likely to take action after the session.

Associate yourself with the participants. Gain their confidence and avoid confrontations and rejection by:

- establishing personal contacts and remembering the names of the participants;
- giving frequent examples and praising what you have seen at enterprises; and
- discussing problems from the participants' point of view - using "we" instead of "you".

Be ready to deal effectively with the unexpected. During work sessions, unexpected things can happen, such as overhead or slide projector failure. Always have spare bulbs and know how to replace them, and learn how to operate the slide projector manually.

Learn how to manage the session time effectively. Forty-five minutes is a very short time to complete a technical session, especially when you use participative methods. The following can help:

- allocate at least five minutes for unexpected interruptions and sufficient time for questions and remarks of the participants;
- let the participants help you to keep proper track of time. Start each session by writing down the exact time when the session will end;
- above all make at least one proper "full scale" rehearsal in front of your colleagues.

Group work

One of the most effective techniques for motivating participants to take action is to involve them in group work. A variety of activities are included in this course, which are intended to:

- form groups of participants with common problems and interests;
- convince the participants that working together in groups is worth the time and effort it will take;
- develop group cohesiveness;
- clarify what will be expected of the groups and what support they can count on.

During the week taken up by the checklist exercise and initial workshops, three or four well-organised working groups should be formed. These groups will stay together until the end of the course and will undertake enterprise-level action on the basis of their work. As early as possible, the trainers should develop proposals on how to organise the participants into groups. There may be a natural tendency for certain participants to group together on the basis of industry, location or other factors. This may happen as early as the checklist exercise. If not, by the end of the second day of training it should be possible to decide how the work groups should be formed. In general, three to four groups with five to eight members each work well. Very small or large groups should be avoided. Groupings by industry are the most common and are often very effective, but sometimes participants will hesitate about working with competitors. Location is also a good basis for groups, since they will need to visit each others' factories. The trainers should use informal contacts among participants to develop proposals for grouping the participants.

At the end of the technical presentations, the work groups are given explanations about group assignments and the way group work will be carried out. There is a guide for this in the supporting materials.
Action Plans and follow-up

Introduction

After a week of intensive training, the participants should have the motivation and technical information necessary to plan and carry out improvements in their own enterprises. The course staff move from a training to a support role, with particularly heavy involvement of the group co-ordinators.

During this period, two additional half-day workshops are held. The first, called the mid-course workshop, provides an opportunity to consider the process of implementing changes, especially those which are complex or difficult. The final workshop then allows for the groups to report on their achievements during this action period and to set out their plans for further improvements.

Step 4: Group company visits and preparation of Action Plans

The objective of this step is to identify possible improvements in as many of the participants' enterprises as possible. It also reinforces mutual support among group members in taking action and provides practice for the participants in problem analysis and diagnostic techniques.

The main activities are:
- completion of the checklist by each participant in their own enterprise;
- visits by participant groups to as many enterprises as possible;
- identification of opportunities for improvement in all companies;
- completion of a form (Action Plan) identifying potential improvements in each enterprise; and
- joint development of their entry for the "small, low-cost and clever" contest.

During this step, the role of the group co-ordinators is critical. They must ensure that the groups actually meet and that they carry out the work required.

The supporting materials to be used in this step include:
- a guide on group work, which was already mentioned in the previous chapter, since it is used at the end of the initial workshops;
- the checklist (extra copies will be needed); and
- the Action Plan form which is to be completed. There is also a sample completed Action Plan to be used as a handout.

The time required for this step is about one week. The major output is the completed Action Plans.

Step 5: Mid-course workshop

The objectives of this workshop are:
- to enable the participants to plan relatively difficult improvements;
- to motivate them to carry out as many improvements as possible, whether simple or difficult, prior to the final workshop; and
- to encourage them to set up a process of continuing improvement.

The main activities during the workshop are a presentation on the process of change, group work on case studies involving complex improvements and organisation of group work for the final workshop.

The supporting materials for this step are a guide on implementation of improvements, which covers the workshop organisation and content, and a handout on "How to implement improvements".

The time required is half a day.

The main output is participant commitment to carry out improvements and document them during the final workshop. A preliminary schedule of work should also be established and each group should name the person who will present its achievements at the final workshop.

Case studies

The main activities during the mid-course workshop are group discussions and presentations based on case studies. The participants' interest in the case
studies is much higher if they have seen the factory concerned, which means that case studies from the checklist factory are particularly effective. If this is not possible, the case studies should at least be from participant companies, which allows the gathering of live material and a reaction from the owner. There is a presentation on the implementation of improvements which is given before the groups discuss the case studies.

The purpose of the case-study discussions is to face the participants with complex problems which cannot be solved by a simple improvement in plant and equipment. In particular, the case studies should bring out the importance of involving workers in the process of change itself. The case studies are therefore especially related to the technical session on the organisation of work.

The first case study should focus on a specific area of a factory such as an assembly bench or a group of machines. Several workers should be concerned. There should be several problems (e.g. materials handling, work-station design, lighting, control of hazardous substances) and it should be necessary to consider these problems jointly in order to find a good solution. In other words, the work area in the case study should be typical of conditions in small-scale industry.

The participants should be given a description of the situation and the problems of the work area. The description should include information on the owner's view of the problem and any solutions previously tried. It is very useful to provide a diagram of the layout or a drawing of critical machines. In addition, slides showing the situation can be presented and the owner can be questioned.

A handout on "How to implement improvements" contains questions which help in preparing the group presentations. The participants should be asked to follow the main points of the handout in preparing their presentations. They should produce overhead transparencies or posters with drawings and lists of actions to be taken.

In the second case study, the participants should be encouraged to go beyond changes in plant and equipment to deal with points such as the possible resistance of workers to change, development of new work habits or skills, motivation, and the possible contributions of workers to productivity or product quality. This should help the participants to think in terms of communication, consultation, worker involvement and training.

The procedures for organising discussions about case studies are covered in the guide on implementing changes.

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### Step 6: Improvements in enterprises and preparation of group reports

The **objective** of this step is to convince the participants, through actual experience, that they can and should carry out improvements in their own enterprises.

The **main activity** is the preparation of each group's presentation at the final workshop. This will require each participant to make some improvements and plan others and there will need to be enough group discussion to agree on the content of the presentation. It will also be necessary to prepare slides, drawings and other visual aids, which often require considerable effort. The role of the group co-ordinators is again crucial.

It is helpful to hold a meeting for the participants who will present the group reports at the final workshops. This allows for the preparation of additional visual aids and a rehearsal of the presentations.

The groups must also complete their "small, low-cost and clever" contest entry.

The **supporting material** is a handout to assist groups in planning their final presentations, which also covers the "small, low-cost and clever" contest.

The **time allotted** to this step should be at least one week but not more than two weeks.

The **output** is a well-rehearsed final presentation by each participant group based on their Action Plans and the improvements they have carried out, plus a contest entry.

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### Step 7: Final workshop: Reports of participant groups

The **objectives** of this step are to:

- provide a time limit for the introduction of at least some improvements;
- give the participants a sense of achievement and motivate them for further efforts;
- encourage the exchange of ideas among groups;
- provide public acknowledgement of the participants' achievements and an opportunity to publicise the programme as a whole.

The **activity** is a half-day workshop consisting of group presentations. If at all possible, press coverage should be arranged. There may also be a very brief reaction from the trainers, but this should be congratulatory rather than analytic or critical.
Groups are also asked to present their improvements conducted in the framework of the "small, low-cost and clever" contest. Winners are chosen and prizes and certificates of participation are distributed. Evaluation forms should be completed. A closing ceremony may follow the workshop.

The supporting materials available for this step are a model evaluation form and a model press release. A guide on the final presentations and the "small, inexpensive and clever" contest is included under Step 6.

The time required is three to four hours, depending on the number of groups.

The main output of this step is the presentations themselves. They should include a summary of the achievements and plans of each enterprise. The slides and other materials produced by the groups may be used for promotional purposes.

Step 8: Follow-up

Over the following three to six months, the companies should be encouraged to implement the Action Plans. Follow-up support may be necessary to help them overcome problems. The companies should be encouraged to keep in touch with each other throughout this process.

The objective of this step is to encourage each company to implement improvements systematically.

During this period of implementation in the company, it has been found that difficulties may arise in respect of worker involvement and motivation to implement change. A number of innovative approaches have therefore been developed, aimed at worker involvement and at increasing the flow of ideas from the shop-floor about how to improve working conditions. These are described in the next section.

During the follow-up period the companies should be visited by resource persons, who may be trainers or group co-ordinators. Ideally there should be involvement of participant group members in these visits. During the visits the resource persons should be prepared to give advice or to provide introductions to specialist sources of assistance.

Participants may also be encouraged to meet on an informal basis (independent of the resource persons) to discuss common problems as and when it seems opportune.

The supporting materials for this step are two forms for reporting on improvements plus completed examples of each form.

The minimum time for follow-up of Action Plan implementation would seem to be two to three months.

The major output of this step should be the implementation of specific improvements in each of the participants’ companies. These improvements may be used as the topic for further seminars within the group or as a means of marketing the programme. Examples of the kinds of improvement that have taken place in previous cases are summarised in the supporting materials.

It is also very useful to arrange a follow-up workshop after a few months. The content of this workshop will be determined by the quantity and quality of the progress made in the preceding period. The workshop will therefore be structured using material drawn from the individual companies. Judicious selection will ensure that the improvements which are covered are in areas where unexploited potential for change in other participants’ companies has been identified. Areas where there is potential for future co-operation or sharing of external costs should be highlighted, for example in establishing common canteen, recreation, medical or transport facilities.

Obtaining worker involvement

Workers should not be thought of as merely passive, indirect beneficiaries of the programme, but should be involved in the implementation of changes. To a substantial degree, success in implementation is a function of worker support. Without their involvement there will be the risk that desirable change will be opposed because it conflicts with existing work practices and culture or just because the benefits have not been made clear.

It is therefore desirable to set up, parallel to programmes for owner-managers, a number of activities designed to induce worker co-operation and involvement. These may be organised within an individual participants’ company or for workers from a group of companies. In most cases they cannot start before the courses are well advanced and the owner-managers have come to accept the need for worker involvement. If it is possible, worker involvement activities can be organised during the follow-up period just after the course itself. They may include:

- educational seminars to explain what is being done in the course;
- slide presentations to give examples of good practice;
- competitions in devising safety slogans;
-- competitions devised to focus workers' attention on proper use of necessary protective clothing and equipment;
-- suggestion schemes (with awards for best contributions);
-- safety and working conditions competitions designed to encourage thinking about improvements;
-- task groups or quality circles organised for development and implementation of improvements.

The sessions with workers can be organised on company premises and incentives given to attend by allowing part of the session to take place during working time. Snacks or drinks may also be provided.

**Evaluation**

The assessment of results of programmes based on this approach can take place at a number of levels, each associated with a different time scale.

The ultimate objective of each programme is to facilitate improvements in working conditions and productivity in the participant companies. It is therefore important to identify and monitor the intended actions (set out in the Action Plans), the problems which occurred and the concrete results. The Action Plans therefore form the major basis for evaluation, although of course there may be changes to the initial plans.

To identify the overall changes in productivity associated with these improvements will not normally be possible without very careful and controlled measurement, but examples and the subjective evaluations of the employers can be very useful.

It is also important to monitor the process, that is the way in which the course is carried out and how the company-level results are achieved. Such monitoring may take place at each stage of the course but should always be undertaken during the period of Action Plan implementation. Monitoring during this final stage is especially important because it may lead to the identification of bottlenecks which require outside assistance. The approaches to workers' involvement mentioned above resulted from just such ongoing analysis.

Finally, it is possible to develop simple instruments to assess effectiveness and efficiency either at the end of the complete course or at various stages. Such assessments will generally be designed to test:
-- the participants' general approval of the course (or otherwise);
-- the strong and weak points;
-- the appropriateness of the timing of the course;
-- the utility of particular sessions;
-- the relevance of the course to the company's own needs;
-- whether the participant feels he or she has learned something;
-- what changes might be made in overall design, content, time or staffing.

An example of an evaluation form is given in the supporting materials.

**Building national programmes**

The main purpose of this *Trainers' manual* is to assist trainers with the practical problems of carrying out courses like those described in Chapter 1 under "Types of training event". In view of the very large numbers of small and medium-sized enterprises which need to be reached, it is highly desirable for such courses to take place within the framework of a national programme or strategy. In particular, it needs to be recognised that the comprehensive courses described in Chapters 2 to 4 are a costly way to reach roughly 25 or 30 enterprises with some 500 workers. It is therefore important to consider ways of multiplying the effects of individual courses.

Before considering the types of programme or strategy which can be adopted, it is useful to recall the nature of the problem. In the first place, the ultimate goal is for entrepreneurs to take action, not merely receive training. The success both of training events and national programmes is therefore measured by actions taken to improve working conditions and productivity at the enterprise level. Moreover, small and medium-sized enterprises tend to need many improvements, not just a few. In addition, new products, machines, work methods and workers are constantly arriving. There is therefore a need to develop a *sustained process of improvement* instead of promoting a few ad hoc, one-time changes. Given the many constraints which face the owners and managers of small-scale industrial enterprises, this is not an easy task. There are very strict limits on how much training events can be diluted without greatly diminishing their effectiveness.

While the objective is a very demanding one, there are potential sources of substantial resources. In many countries, for example, ministries of labour and factory inspectorates currently devote very limited time and effort to the small-scale industrial sector. This is not because the number of workers concerned is small or the problems are not severe.
In many countries, enterprises with fewer than 50 employees constitute over 90 per cent of industrial units and over half of industrial employment. The conditions offered by these enterprises are, on average, unquestionably less satisfactory than in larger enterprises. If the ministries and their subsidiary agencies could be convinced that they could have a real impact on conditions in this sector, while at the same time improve rather than threaten the survival of enterprises, they might well be prepared to devote resources which were in a closer balance with the size of the problem.

Institutions which train entrepreneurs are another possible source of support. Many such institutions are much stronger in providing training and assistance in the fields of marketing and finance than in the solution of day-to-day shop-floor problems. They might welcome, for example, a ready-made module which they could include in existing training programmes.

Employers' organisations are increasingly concerned with small and medium-sized enterprises and many have begun to offer training and extension services directed at this sector. They too may be enthusiastic about a programme with clear elements of both managerial effectiveness and social responsibility.

Convincing these agencies and institutions to support activities concerning productivity and working conditions is not an easy task. There are many competing priorities. In order to demonstrate the effectiveness of this approach under local conditions, it is important to start with a comprehensive course. At the end of the course, there should be a nucleus of experienced trainers, a group of entrepreneurs ready to describe their own success and to promote the approach, and a collection of documented examples of the types of improvement which can be carried out. In addition, the final workshop is an excellent opportunity to expose decision-makers to the programme. It is convincing precisely because it is the entrepreneurs who speak, not the trainers.

Once the support of local institutions is assured and local trainers are available through participation in the organisation of intensive courses, the other types of activity described in Chapter 1 may be tried. Awareness-raising seminars, short courses and modules for other types of entrepreneur training can all be developed and carried out. These activities in turn offer opportunities to increase the number of experienced trainers and to expose other groups, such as inspectors.

Each course will provide a substantial number of examples of improvements, which should be documented with before-and-after slides and, where necessary, blueprints or technical specifications. This inventory of examples can then be used in many ways. Low-cost improvements can be promoted, for example, in response to particular problems. Special materials can be prepared for specific industries or sectors.

In building up larger programmes of action, follow-up in individual enterprises is extremely important. This not only permits improvements in the training methods and materials, it establishes a pattern of building upon early action, which is the basis of successful programmes. Moreover, it keeps the programme's activities close to consultancy-oriented training and enterprise-level action which are the roots of the approach.

The improvement of working conditions and productivity in small and medium-sized enterprises is a difficult but worth-while endeavour. The approach which has been developed by the ILO is designed to make action in this field as easy and as effective as possible. Experience so far suggests that on average four to six improvements per enterprise are carried out during the three months which follow the course. The evidence that a longer-term process of change is initiated among the participants is more fragmentary but encouraging. Given the vast number of potential participants, the extensive and urgent needs for improvements and the very real benefits for both employers and workers, it is hoped that a large number of trainers and training institutions will invest their time and energy in applying the approach described in this Trainers' manual.
Supporting materials

The materials in the following pages are for use in organising, carrying out and following up training courses. There are guides and worksheets for internal use, models of documents which you can adapt to local circumstances and technical session guides for each technical subject.

All trainers should have easy access to these materials. If you do not have enough copies of this manual, use photocopies.

Supporting materials for Chapter 2: Participant recruitment and enterprise visits

Guide - Introduction to higher productivity and a better place to work

An ILO training programme for owners and managers of small and medium-sized industrial enterprises

Under the auspices of the International Programme for the Improvement of Working Conditions and Environment (PIACT), the ILO has developed a systematic approach to the improvement of working conditions and productivity in small and medium-sized manufacturing enterprises in developing countries.

The users of the approach and its accompanying training materials are expected to be mainly employers' organisations, productivity centres, small enterprise development centres and other institutions and programmes which assist and support small enterprise development, as well as government agencies responsible for working conditions and occupational safety and health.

The target is the entrepreneur, that is, the owner-manager of the enterprise. Participants usually manage enterprises employing from five to 80 production workers. In many countries, such enterprises account for over 90 per cent of industrial units and for half or more of industrial employment.

This new method is not a substitute for law, regulations and enforcement measures concerning occupational safety and health or conditions of work. Nor is it a substitute for collective bargaining as a means for determining and improving working conditions. It is a complementary approach designed to encourage and assist small enterprises to take low-cost, voluntary measures which improve working conditions while at the same time increasing productivity.

The new training method was designed because small enterprises are a high priority sector both for development and for the improvement of working conditions. It is necessary because traditional inspection-based methods for protecting workers are often inadequate due to factors such as the large number of enterprises and their wide geographical dispersal. The approach attempts to take into account the specific characteristics of small enterprises.

In spite of their economic and social importance, many small enterprises have a very precarious existence. In part because the owner-manager is preoccupied by these problems, conditions of work, work-related welfare facilities and occupational safety and health are often unsatisfactory. Because of these same difficulties, appropriate policies and programmes concerning working conditions and environment should not add new burdens to the enterprise. They should provide:
- practical advice ("How to", not "You must");
- low-cost solutions;
- productivity-enhancing, quality-enhancing solutions.

The training method being developed by the ILO is a voluntary approach which follows these ideas.

Importance of the owner-manager

In small enterprises, it is usually the entrepreneur, or owner-manager, who makes all the decisions. He or she is a very busy, action-oriented person who is usually rather suspicious of government intervention and talk of working conditions. Because of this, the first approach to potential participants should emphasise that the new ILO method depends on voluntary co-operation rather than enforcement, and should try to help overcome any fears. The following principles should therefore be followed:

(a) access should be through the owner;
(b) the contact should be direct and personal;
(c) existing channels, such as trade associations, should be used;
(d) the approach should be informal and non-coercive;
(e) discussions of conditions in the enterprise should emphasise the positive; and
(f) explanations should be given, to reassure the owner-manager about the costs of the project (in both time and money).

Training methodology

Once the enterprises have been contacted and training is underway, six basic principles are followed. Together with the formation of participant groups, these principles are the essence of the new ILO approach. They are:

Build on local practice.
Focus on achievements.
Link working conditions and other management goals.
Use learning-by-doing.
Encourage exchange of experience.
Promote workers' involvement.

The actual operation of the approach depends on mutual support and advice among the participating owner-managers. They have the most direct understanding of what local conditions really are, what the entrepreneur wants and what can be done in practical terms. They are more easily perceived as "insiders" who are genuinely trying to help.

The new approach attempts to take advantage of the higher motivation and effectiveness associated with group work. The owner-managers therefore work in groups.

Technical content

The technical content of each programme will depend on the specific problems and opportunities found in the participating enterprises. However, a number of problems and opportunities are very common and it can safely be assumed that they should be covered. Ways of covering
these topics have been devised which take the likely concerns of the owner-managers into account and which follow the basic principles of the approach described above. In addition, an Action manual provides further information for the participants on specific technical topics. It includes a checklist which gives simple suggestions for improvements in various technical areas. Throughout the course, productivity is constantly emphasised. This is extremely important in view of the voluntary nature of the course. If the owner-managers do not see any likelihood of a productivity gain, they will quickly lose interest.

The technical content is oriented toward solutions rather than to the problems themselves. Illustrations from the participant enterprises are of good examples deserving wide application, not worst-case demonstrations of problems that exist.

The technical materials are organised around eight technical themes. Each theme has been chosen because of its practical importance in small and medium-sized enterprises and because of its relationship to both working conditions and productivity. The themes are:

- **Materials storage and handling.** The storage and handling of parts and products is an essential part of all production processes. Done efficiently, it ensures that work flows smoothly and helps to avoid many delays and bottlenecks. However, storage and handling by themselves are not a source of additional value or profit. During these operations, goods do not acquire any new qualities. Just the opposite happens: materials are damaged or deteriorate, capital costs must be paid and accidents occur. For the entrepreneur, improved material storage and handling mean recovery of misused space, less production time spent searching for tools and materials, lower capital costs due to less work-in-progress, simplified inventory control, fewer unnecessary operations and a better overall factory appearance.

- **Work-station design.** Most work is carried out at work-stations where workers perform the same task hundreds of times per day. The benefits from small improvements are thus multiplied many times. Awkward work postures and movements mean lower productivity and quality as well as greater fatigue. Simple improvements such as jigs, fixtures, stable work-surfaces or placing tools and materials within easy reach can have large payoffs.

- **Productive machine safety.** While no-one wants accidents to happen, machine safety is often ignored because it is seen as costly or inefficient. This way of thinking is common among workers as well as managers. However, using techniques such as modern feeding and ejection devices, it is often possible to increase productivity while at the same time eliminating the hazard. Where guards must be used, they need not be costly and above all they need not reduce productivity.

- **Control of hazardous substances.** Hazardous substances of one form or another can be found in almost all small and medium-sized enterprises. Exposure to many chemical substances causes fatigue, headaches, dizziness and irritation of the eyes and air passages, resulting in a reduction of productivity and quality and increased absenteeism and staff turnover. High levels of dust, oil, paints and other sprays, etc. interfere with efficient operations, require extra inspection and cleaning and may spoil materials or final products. Through simple and inexpensive means, it is possible to control most of these problems.

- **Lighting.** Better lighting and related visual improvements very often increase productivity and reduce difficulties and strain for workers. This is especially important for rapid or detailed work or for quality products. Better lighting does not need to mean higher cost. Use of daylight and regular cleaning and maintenance can improve lighting while reducing the electricity bill.

- **Work-related welfare facilities and services.** Work-related welfare facilities are an essential part of any enterprise. During each working day, workers need to drink water or some other beverage, eat meals and snacks, wash their hands, visit a lavatory, and rest and recover from fatigue. Work-related welfare facilities are not something extra, nor a luxury to be attended to when all other conditions are satisfied and productivity is high. Good work-related welfare facilities are essential to higher productivity. They improve the workers' health, morale, motivation, job satisfaction and attendance.

- **Work premises.** Most small enterprises are located in buildings which were not carefully designed for their current use. In addition, new equipment is often placed wherever there is the most space, which gradually results in a hazardous layout. Much can be done, even with older buildings, to improve ceilings, walls and floors. The impact of simple measures on ventilation, heat and pollution can be dramatic.

- **Work organisation.** Improvements in the way production is organised and scheduled can have a very large impact on both productivity and motivation. Modern techniques of work organisation, such as recombining tasks, setting up buffer stocks, introducing multiskilling, developing group work-stations and using product-based organisation have numerous advantages. They improve the workers' health, morale, motivation, job satisfaction and attendance. These techniques are a source of dangerous competition from large companies: their introduction makes the smaller enterprise more likely to survive and grow.

### Worker involvement

Obtaining worker involvement can be difficult in small enterprises, but it is important and rewarding. The training programmes offer an opportunity for entrepreneurs to learn the value of making better use of their workers' skills, abilities and ideas.

### Course organisation

Several types of programme can be organised. The most complete is the comprehensive training course, which has the following main steps:

- recruitment of potential participants and visits by trainers to participants' enterprises;
- three half-day training sessions including a factory visit for a checklist exercise and technical workshops;
- company visits by participant groups and preparation of action plans for discussion at a mid-course workshop;
- improvements in enterprises and preparation of group reports to a final workshop.
Model promotional brochure - Advanced action-oriented programme

Making the enterprise more efficient and a better place to work

This unique action programme for owners and top managers of small and medium-sized manufacturing establishments is designed to facilitate radical improvements in production organisation and work environment.

Programme organisers: [names of organisations, such as an employers' association, a productivity centre]
Participants will receive a Certificate from the [Ministry of Labour or other authority]

Each participant will receive an Action manual with 150 illustrations of practical improvements.

Course activities
During the course you will:
- apply a modern diagnostic technique to identify potential improvements in work arrangements and the working environment which lead to higher productivity;
- develop low-cost improvements;
- acquire skills in the implementation of change and in overcoming resistance to change;
- develop concrete plans of action and implement some innovations before the end of the programme.

Before the course begins, each enterprise will be visited to discuss problems and gather examples of good ideas for use in the course. During these visits, confidential areas of the enterprise will be fully respected.

Programme design
Four special features of the programme design result in high effectiveness:
- All programme activities are closely linked with local conditions and based on innovative ideas collected at the participants' own enterprises.
- The programme offers opportunities to exchange ideas and engage in joint problem-solving with other factory owners and top managers. Many participants establish long-lasting co-operation after the course is over.
- Workshop sessions alternate with practical testing and immediate shop-floor implementation of innovations. More than half of the programme is spent at the enterprises, applying diagnostic tools and developing solutions.
- Extensive use of active training techniques such as action-learning, real-life case studies, group dynamics, and brainstorming ensure full involvement.

Scope
The programme possesses considerable in-built flexibility enabling trainers to concentrate their effort and time on the "hottest" issues at participants' enterprises.

The participants learn how to:
- regain space and how to avoid damage, lost time and accidents through better materials storage and handling;
- design work-stations for efficient work;
- make machines more productive and safer;
- avoid losses, quality problems and health complaints through better control of hazardous substances;
- increase production and improve quality through better lighting - without increasing electricity costs;
- improve employee loyalty, morale and productivity through low-cost work-related welfare facilities;
- rearrange work premises for efficiency and heat control;
- optimise production systems and increase worker motivation through advanced organisational techniques.

In each case, the emphasis is on productivity and practical action.

Participants
The programme is intended exclusively for owners and top managers of small and medium-sized manufacturing establishments in all industries. Participants must attend all activities of the programme. Only 30 participants can be accepted.

Place and time
The main workshops will be conducted at [place]. All course activities are scheduled to minimise disruption of your working day. Workshops begin at [time] and other activities are scheduled flexibly. The main workshops will be held on [dates].

Registration
All expenses, including cost of training materials and snacks, will be covered by the sponsoring agencies. No fee is charged to the participants. [Alternatively, a fee may be charged, for example to cover the cost of meals.]

To apply for admission to the programme, please complete the enclosed registration form and send it to: [address].

For further information, write to the above address or call: [name and number].

The course staff includes:
[Names and brief description of qualifications and experience.]
[Photographs are a good idea.]

Guest speakers will include:
[Names and titles.]
[Possibly photographs.]
Application form

Name

Company name and address

Telephone

Private address

Telephone:

Position and responsibilities in your company
(only owners and top managers can be accepted)

Main products of your company

Total number of employees

Date

Signature.
Guide – Photography and the choice of subjects

Remember that slides play a crucial role.

The whole course is very much dependent on slides, which are used for presenting positive, practical ideas collected at the participating enterprises. They are also used to document improvements implemented in the course of the programme.

The main task is to collect positive examples.

Slides are used to expose participants to three main types of example from their own enterprises:

- positive examples of good ideas which have already been implemented at one or more enterprises;
- examples of poor working conditions which lead to low productivity and inefficient organisation;
- typical “normal” work arrangements and working conditions with some positive and negative features.

The “positive approach” is the cornerstone of the programme. It is important to have a solid collection of good ideas deserving wide application. Examples of poor conditions are only rarely used in order to confront the positive examples with situations requiring improvement. The third category of slides is used to present “visual cases” for conducting review and brainstorming exercises.

Before taking the slides, be sure that you know its exact “message”.

Slides are used to provide visual images of different improvements and ideas from the participants’ enterprises. Logically, the first task is to discover potential improvements. The second is to get a clear idea about their advantages and limitations, etc. This is why the taking of slides should never be delegated exclusively to a photographer. It is important for the trainer to decide:

- what exact message should be transferred to the participants by the slides;
- what key details should therefore be included in it.

While this can be explained, slide by slide, to the participants, it is much more efficient when the trainers take the slides themselves.

How many slides are needed?

The slides which count are the ones which are used in the course. As general guidance, the “list of slides” which follows can be used. To give solid visual support to each “rule”, at least three to five positive examples are usually needed. When you start factory visits it is difficult to foresee how many examples you will be able to collect, so it is advisable to try not to miss any opportunity to take a picture of an appropriate positive example. If you find that there are very many good examples in one factory, take shots of the best ones and make notes of the rest and ask the permission of the owner to come back at a later stage if there is a need to collect more examples. It is best to take at least a few shots at each enterprise. Experience shows that 30 to 40 slides per enterprise is a reasonable average, which means about 1,000 slides in a typical course.

Never put off development of the exposed films until the end of the factory visits.

Try to have films processed immediately after each factory visit. This will help you to decide which slides could be used for each presentation, which photographs did not come out properly and whether any shots should be taken again.

The use of a portable, instant slide-developing kit could be the ideal solution, as it can be used to process special slide film in a matter of a few minutes.

Make proper use of the flash attachment.

In the majority of cases, a flash attachment will be needed. Special care should be taken to overcome problems of reflected glare from bare metal or glossy machine surfaces. In this case, a flash extension cord should be used in order to direct the flash at a different angle than the camera.

To take general pictures of factory interiors which are poorly lit, one needs either a tripod (for making long exposure shots) or additional high-intensity light sources.

List of slides for technical presentations
(to be taken at the participating enterprises)

Course introduction and survival exercise

1. Slides illustrating the technical topics to be covered by the course. These can be selected from the slides for each technical theme.
2. Examples of products from the participating enterprises.

Materials storage and handling

1. Pictures of several factories free of unnecessary stock or materials and with a clear floor.
2. A number of good examples of efficient storage of materials usually kept on the floor: bins, support-frames, racks, shelves, containers for rubbish.
3. A cluttered factory with a lot of materials or stock kept on the floor.
4. Different types of multi-storey and wall-mounted racks; tool storage cabinets which are convenient and save floor space.
5. Several types of racks, cabinets, inserts and suspended systems for keeping tools in order and in easy reach.
6. A work-area with a lot of tools kept in disorder.
7. Different types of pallets and movable storage racks (universal and special purpose) for systematic storage and easy handling of different work items.
8. Mobile work-stations, tool trolleys and carts.
9. Platforms, trolleys, tracks, special devices allowing movement of heavy loads at a minimum elevation from the ground.
10. Movable assembly stands and work-stations, passive conveyor lines and supporting tables for moving heavy work items at working height.
11. Different simple lifting devices, preferably easy to transport and for use on the floor rather than overhead.
12. One or two examples of incorrect lifting of heavy loads.
13. Several general slides of a production area of one of the participating enterprises with a number of storage and materials handling problems and some good points.
Work-station design

1. A number of workplaces with materials, tools and controls within easy reach and at the appropriate height. Good use of bins and tool holders.
2. A work-station with no order in layout of tools and materials.
3. A number of ergonomically-sound standing and sitting work-stations where the “elbow rule” is observed.
4. Workers in difficult work positions (operations with hands raised above head level, or in bending postures) and seats without backrests.
5. Use of jigs, clamps, suspended tools, levers, chutes, counter-balances and other devices for saving worker’s energy and time for productive work.
6. Properly labelled displays and clear layout of switches, gauges, etc.

Productive machine safety

1. Different types of feeding and ejection device – plunger, carousel, gravity. (It may be necessary to use overhead transparencies based on the Action manual.)
2. Different types of machine guard: fixed, interlocking, adjustable, machines with two-hand controls. (It may be necessary to use transparencies.)
3. Different machine tools in operation, with a clear view of the hazardous zone and means of accident prevention.

Control of hazardous substances

1. Use of lids, to reduce dangerous and wasteful evaporation from cans, baths, mixing drums, etc.
2. Use of thermostats, to avoid overheating of chemicals.
3. Use of enclosures or separate rooms, to minimise risk areas.

Lighting

1. Good sources of daylight: skylights, use of translucent plastic roof panels, windows placed high up.
2. Work-stations with high lighting requirements placed close to windows.
3. Machine tools or work-stations situated in such a way that natural light comes from the side: lamps with deep shades; use of temporary barriers around an electric arc welder.
5. Use of screens in the field of vision of the worker to reduce visual distraction; use of a translucent table top with backlight.
6. Local lighting for precision work.

Welfare facilities

1. Drinking water arrangements: bottles, containers, fountains, filters.
2. Wash stands, toilet facilities.
4. Rest areas and eating places.
5. Changing rooms, lockers and showers.
6. Canteens.
7. Medical cabinets and dispensaries.
8. Transport facilities and services, storage for bicycles and motorcycles.
9. Recreation facilities.

Premises

1. Trees and bushes around factory building as natural protection against heat.
2. Shades used to reduce heat penetration.
3. High placement of exhaust fans, openings in the roof for escape of hot air, louver-type windows for horizontal air flow.
4. Isolation of polluting machines (use of hoods, screens, etc.). Relocation of polluting machines or work-stations (moving them outside or away from workers). Machines and equipment introduced to replace polluting ones.
5. Appropriate floors for specific types of production process. Floors causing production problems.
6. Wide passageways kept clear, with marked boundaries. Use of protective barriers. Use of modular equipment and furniture that is easy to move, split up or replace. Overhead uniform distribution of general lighting and supply lines.
7. Clearly marked and unobstructed escape routes and exits. Appropriate fire extinguishers and fire fighting equipment near the sources of potential fires. Main power switches in easy reach and clearly marked. Use of separate earthing wires connected to the independent earthing rods.

Work organisation

1. Examples of tools and machines that combine operations. It is especially effective to show two similar parts of products produced by methods involving different numbers of tasks.
2. Group work-stations.
Table 1

Worksheet

PRELIMINARY LIST OF PARTICIPANTS

<table>
<thead>
<tr>
<th>Name of enterprise (number from 1 to 40)</th>
<th>Industry and main products manufactured</th>
<th>Number of production workers</th>
<th>Name and title of possible participant</th>
<th>Address and telephone</th>
<th>Remarks</th>
</tr>
</thead>
</table>

(Remember that enterprises should be located as closely together as possible.)
Supporting materials for Chapter 3:
Checklist exercise
and initial workshops

Model course programme

<table>
<thead>
<tr>
<th>Course title</th>
<th>Dates</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visits to participants' enterprises by course staff.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Checklist exercise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Enterprise visit.</td>
<td></td>
<td></td>
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<tr>
<td>- Group discussion and presentations.</td>
<td></td>
<td></td>
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<tr>
<td>Course introduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opening ceremony</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Examples of possible speakers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Representative of sponsoring institution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Representative of employers' organisation</td>
<td></td>
<td></td>
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<tr>
<td>- Representative of small enterprise promotion institute</td>
<td></td>
<td></td>
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<tr>
<td>- Representative of Ministry of Labour</td>
<td></td>
<td></td>
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<tr>
<td>[Date and time]</td>
<td></td>
<td></td>
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<tr>
<td>Initial workshop</td>
<td></td>
<td></td>
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<tr>
<td>- Materials and storage handling.</td>
<td></td>
<td></td>
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<tr>
<td>- Work-station design.</td>
<td></td>
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<tr>
<td>- Productive machine safety,</td>
<td></td>
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<tr>
<td>- Control of hazardous substances.</td>
<td></td>
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<tr>
<td>[Date and time]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial workshop</td>
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<td></td>
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<tr>
<td>- Lighting.</td>
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<tr>
<td>- Welfare facilities.</td>
<td></td>
<td></td>
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<tr>
<td>- Premises.</td>
<td></td>
<td></td>
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<tr>
<td>- Work organisation.</td>
<td></td>
<td></td>
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<tr>
<td>- Introduction to group work.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Dates]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preparation of Action Plans: enterprise visits in groups.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Date]</td>
<td></td>
<td></td>
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<tr>
<td>Mid-course workshop</td>
<td></td>
<td></td>
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<tr>
<td>- Introduction to implementing changes.</td>
<td></td>
<td></td>
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<tr>
<td>- Case studies: group discussions and presentations.</td>
<td></td>
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<tr>
<td>- Introduction to final group presentations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Dates]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improvements in enterprises and preparation of final group presentations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Date]</td>
<td></td>
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<tr>
<td>Final workshop</td>
<td></td>
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<tr>
<td>- Group presentations.</td>
<td></td>
<td></td>
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<tr>
<td>- Evaluation of the course.</td>
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</tr>
</tbody>
</table>

Closing ceremony

Examples of possible speakers

| Representative of sponsoring institution | | |
| Representative of employers' organisation | | |
| Representative of small enterprise promotion institute | | |
| Representative of Ministry of Labour | | |
| Representative of participants | | |

Guide – Checklist exercise

The purposes of the checklist exercise are briefly described in Chapter 3. It is especially important that this first course activity be well organised. However, trainers should not dominate the exercise but should remember that the real work is to be done by the participants.

Choice of the checklist factory

An appropriate factory must be found well in advance. The owner of the factory should agree to be a course participant and should also agree that the factory can be used as an example and point of reference for the course. This will mean, for example, that course exercises and case studies will often be based on actual conditions in the checklist factory.

The factory should be medium-sized (usually 40-80 workers) and the shop-floor should be large enough to easily accommodate all the participants without interfering with work operations. It should have a variety of types of work (e.g. cutting, assembly, painting). Factories from the metalworking assembly or woodworking industries are often appropriate. The factory should not be a model of good conditions; there should be a typical number of good points and of changes needed.

The owner of the factory should be fully briefed on what to expect from the checklist exercise and from subsequent work in the course. Ideally, the owner should be a person open to change and sufficiently successful to be able to try out the more advanced ideas to be covered in the course.

Transport to the factory

Since the checklist exercise should be started at a specific time and late arrivals are a problem, it is best to arrange for transport from the training site to the factory. The participants will later be returned to the training site for the rest of the day's programme.

People travelling separately to the checklist factory should be provided with maps.

Introduction to the checklist

At the factory, a quiet space should be found to distribute the checklists and explain how they are used. The checklist factory owner should be present.

Copies of the checklists should be distributed. It is not a bad idea to distribute them earlier, in the bus, so the participants will know something of the content of the checklist beforehand.

One of the senior trainers should give a brief introduction. Special attention should be paid to the following points:

- This training course is action-oriented and emphasizes learning-by-doing. That is why it starts with an exercise instead of a lecture.
The checklist itself is a list of possible actions (suggestions) which can improve productivity and working conditions in the workplace. It is not a list of problems or an inspection sheet.

The checklist should be filled out separately by each participant. It will later be discussed in groups.

Before starting to fill out the checklist, the participants should take a few minutes to walk through the factory and become familiar with it.

For each checklist item, participants should decide whether the action is really needed and feasible. If so, YES should be marked; if not, NO. Either YES or NO must be marked.

For some of the items marked YES, PRIORITY should be marked. These should be the items with the most benefits both for the employer and for the workers.

In the REMARKS column, many different types of information can be noted: the location of the suggested improvement, the reason it is important, a description of the suggestion, etc.

For several of the checklist items, it will be necessary to ask questions of the owner or the workers.

The time limit for the exercise is one hour to one hour and twenty minutes (decide on a definite time and set time limits).

This introduction by a senior trainer should take no more than ten minutes.

The owner of the factory is then asked to describe the factory and the work process, once again for no more than ten minutes. The following points should be covered:

- a brief history of the factory;
- main products and work processes;
- number of employees, staff, and male and female workers, etc.;
- work schedule, including breaks and overtime;
- available welfare facilities.

Any questions from the participants should be answered.

Important! Before starting, any necessary safety precautions, indications of areas off limits or other instructions should be given, and related questions should be answered.

Checklist application

The participants are taken around the work area selected for the checklist. If necessary, observations and additional explanations are given. They are also informed about the location of welfare facilities. After that, each participant works on his or her own.

The trainers, owner and/or supervisors should be available to answer questions. They should take the initiative to approach individual participants to check whether there are any questions concerning the use of the checklist or about production processes or other aspects. Efforts should be made to encourage the participants to consider all items of the checklist.

Before leaving, be sure to thank the owner. It is important that the owner joins the group discussions which follow.

Group discussions and presentations

Setting up work groups. On return to the training site, it should be very briefly explained that much of the work of the course will be done in groups, starting with group discussions and presentations based on the checklists they have just completed. Participants should consider who they would like to have in their group. It is very useful to have groups from the same industry and located close together.

This is an appropriate time to ask the participants to introduce themselves and to indicate their factory’s main products and location. Try to make this informal or even amusing. Depending on local customs, different ways can be proposed. For example, participants can be asked to announce their name, position, company, main products and... what they were doing 10 years earlier.

Ask the participants to form themselves into three to four groups of six to eight people. Explain that these groups will not have to be the same throughout the course, but that very soon they will have to choose permanent groups. It is a very good idea to let the groups form during a coffee break or snack.

Group work. Each group is asked to spend 30 to 40 minutes to review and discuss individual observations and to arrive at a common opinion about:

- good examples of work arrangements, working conditions and welfare facilities of the checklist factory;
- improvement priorities selected from as many different divisions of the checklist as possible.

Each group should make a list of their findings (either an overhead transparency or large sheets of paper should be used). Groups should also select one of their members to present their findings. Each presentation should be no longer than five minutes. Announce the exact time when group work will be over and be available to answer questions.

Presentations. Invite groups to make presentations (which respect time limits). Each presentation should be followed by questions and a short discussion.

Conclusion. The owner of the checklist factory should be given 5 minutes or so to reply to the presentations. He or she will probably thank the groups for their ideas and promise to consider them.
Guide - Course introduction and "survival and growth" exercise

Before using this guide, read: Trainers' manual, Chapter 1; and Trainers' manual, Chapter 3, "Technical sessions".

Remember: use local, positive examples; encourage participation; and highlight links between productivity and working conditions.

An introduction to course principles and design

This session introduces participants to the objectives, content and work methods of the course. Before it starts, thanks to the checklist exercise, the participants are starting to appreciate the practical value of the course, but group dynamics are low and the participants are still not yet fully involved and open to change. This makes the task of the trainer very demanding. The best way to succeed is to make good use of overhead projections and slides and to let the participants do some of the talking.

The session has three main parts:
- an introduction to course principles and design;
- an exercise on "survival and growth";
- a quick preview of the technical themes to be covered.

Ideally, the session should last no longer than half an hour. Even with active questioning by the participants, it should never last longer than 40 minutes. Keeping to this time limit requires careful rehearsal of the entire session. Rehearsal is also important because participants will be watching to see if the trainers are professional, self-confident and well-organised. First impressions make a difference.

Survival and growth

How can you reduce costs and increase efficiency without substantial capital investments?

Explain the main rules of "brainstorming". In five minutes or so, the participants should throw out as many ideas as possible. They should not worry if an idea seems unimportant as long as it is relevant. The participants are welcomed to expand on previously mentioned ideas, but criticism is not permitted.

Ask the participants to "brainstorm" and write down their ideas. Even better, ask another trainer to assist with writing and concentrate your efforts on leading the brainstorming.

The trainer should encourage, if necessary, the following types of idea through leading questions: loss waste of raw materials; less damage to work items and finished products; better quality control; better maintenance of machines and equipment; better use of workers' time; improved skills; better organised work; more efficient changeovers to new products; fewer accidents.

When the list seems reasonably complete, write or project the following question:

How can workers help?
Replies should include working harder, paying more attention to quality, taking better care of machines, being alert and well motivated, following instructions more carefully, etc.

When the exercise is completed, explain that the themes covered by the course have been chosen to respond in a very practical way to the concerns they have expressed.

**Preview of the technical themes**

Spend about five minutes quickly introducing the technical themes of the course. In each case, indicate how the theme is related to the concerns expressed in the "survival and growth" exercise.

Present two to three slides per theme with selected positive examples from participating enterprises and project a slide or transparency with the title of the theme.

A full course will cover the following: materials storage and handling; work-station design; productive machine safety; control of hazardous substances; lighting; premises; work-related welfare facilities; and work organisation.

Invite questions and comments.
Technical session guide –
Materials storage and handling

Before using this guide, read: Action manual, Chapter 3;
and Trainers' manual, Chapter 3, "Technical sessions".

Remember: Use local, positive examples; encourage participation; and highlight links between productivity and working conditions.

Rehearse your session

Respect the time limit: 45 minutes

Session design
This is normally the first technical session. It is placed first because it:
- is applicable to almost all enterprises;
- is especially concrete and practical;
- is relatively easy to understand;
- can be illustrated very clearly with slides from participants' enterprises;
- tends to attract the immediate interest of participants;
- has clear connections to both working conditions and productivity.

Because it comes first, this technical session should be prepared with special care. The presentation should be rehearsed early and all trainers should participate in making suggestions for improving it.

Productivity should be emphasised because this will be of immediate interest to the participants. Points relating to working conditions, such as fewer accidents and less fatigue, should not, however, be neglected. It is important that working conditions are mentioned frequently, so that the participants begin to see the connections with productivity.

It is likely that the participants will recognise the importance of efficient material storage and handling and be quite willing to make improvements. What they need is effective, simple, low-cost solutions. This is why the session should focus on ideas which you have collected at the participating enterprises during factory visits. These ideas should be grouped around "rules" described in the Action manual. But remember, your main task is to popularise the ideas available at some enterprises for the whole group and not to give a lecture about the theory of materials handling.

The session is divided into four modules:

<table>
<thead>
<tr>
<th>Module</th>
<th>Purpose</th>
<th>Time available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>To arouse interest</td>
<td>2-3 minutes</td>
</tr>
<tr>
<td>Presentation of rules and examples</td>
<td>To communicate ideas and to motivate</td>
<td>18-20 minutes</td>
</tr>
<tr>
<td>Review exercise</td>
<td>To reinforce ideas and sharpen diagnostic and applications skills</td>
<td>10-15 minutes</td>
</tr>
<tr>
<td>Conclusion</td>
<td>To provide a summary and overview</td>
<td>5-8 minutes</td>
</tr>
</tbody>
</table>

Introduction
(time: 2-3 minutes)

Give the title of the session. Stress the point that well-organised materials storage and handling is a first condition of productive work. All the other technical areas which will be covered are linked in one way or another with materials storage and handling.

Either give an outstanding example of improvements from a participating enterprise or provide some striking slogans such as: "Materials handling doesn't add value, just cost!", "Manual handling only causes damage, fatigue and accidents - reduce it!", perhaps as posters.

Present a list of ideas which will be discussed, such as:
- how to reclaim work space and to reduce stock in the factory;
- how to stop workers from losing tools and time;
- how to improve materials flow and reduce handling;
- how to eliminate lifting operations.

Indicate the exact time when the session will end. Invite the participants to contribute to the discussion.

Presentation of rules and examples
(total time: 18-20 minutes; 4-7 minutes per rule)

Select for presentation only three to five rules, but be sure that they are of great importance for the participants.

Organise this as follows:
(a) Show slides of a few practical improvements related to a rule. Explain the advantages and benefits. Invite comments from the participants.
(b) Present the relevant rule and make any necessary additional remarks, such as references to productivity, working conditions or the "survival and growth" exercise.

<table>
<thead>
<tr>
<th>Rule</th>
<th>Visual aids</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>If in doubt, take it out</td>
<td>Several slides of shops free of unnecessary items.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>One slide of a cluttered workshop with a lot of material kept on the floor.</td>
</tr>
<tr>
<td>2</td>
<td>Avoid placing materials on the floor</td>
<td>A number of slides of good examples of efficient storage of materials usually kept on the floor: bins, support frames, racks, shelves, containers for scrap and rubbish.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>One slide of a factory with a lot of materials on the floor.</td>
</tr>
<tr>
<td>Rule</td>
<td>Visual aids</td>
<td>Notes</td>
</tr>
<tr>
<td>------</td>
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</tr>
<tr>
<td>3</td>
<td>Save space by introducing multi-level racks</td>
<td>Slides of different types of multi-storey and wall-mounted racks; tool storage cabinets which are convenient and save floor space.</td>
</tr>
<tr>
<td>4</td>
<td>Provide a &quot;home&quot; for each tool and work item</td>
<td>Slides of racks, cabinets, inserts and suspended systems for keeping tools in order and in easy reach. A workplace with a lot of tools kept in disorder.</td>
</tr>
<tr>
<td>5</td>
<td>The more you use it, the closer it should be</td>
<td>Slides of intermediate storage, tools and parts in easy reach. This rule is often better to cover in the session on work-station design.</td>
</tr>
<tr>
<td>6</td>
<td>Use mobile storage</td>
<td>Slides of pallets, movable storage racks (universal and special purpose) for systematic storage and easy handling of different work items.</td>
</tr>
<tr>
<td>7</td>
<td>Make your equipment easy to move to where it is needed</td>
<td>Slides of mobile work-stations, tool trolleys and carts. It is unlikely that this subject will be of great interest to the majority of participants.</td>
</tr>
<tr>
<td>8</td>
<td>Don't lift loads higher than necessary</td>
<td>Slides of platforms, trolleys, racks, special devices allowing movement of heavy loads at a minimum elevation from the ground. These examples can be used if problems of manual carrying of heavy loads are common to a number of enterprises and simple, efficient tools are not yet available. This subject is usually very relevant for small enterprises.</td>
</tr>
<tr>
<td>9</td>
<td>Move materials at working height</td>
<td>Slides of movable assembly stands and work-stations, passive conveyor lines and supporting tables for moving heavy work items at working height. It is likely that this subject will be of interest only for a few participants performing numerous work operations with heavy loads.</td>
</tr>
<tr>
<td>10</td>
<td>Make lifting more efficient and safer</td>
<td>Slides of number of simple, easy-to-transport lifting devices, preferably for use on the floor rather than overhead. One or two examples of incorrect lifting of heavy loads. Transparencies showing correct lifting techniques can be made, based on the Action Manual.</td>
</tr>
</tbody>
</table>

Review exercise
(time: 10-15 minutes)

Show a few slides of a production area of one of the participating enterprises with a number of storage and material handling problems and some good practices. Ask the participants to evaluate the situation, and to indicate the good points and the main problems. Then ask what improvements can be suggested. List these on a board, chart or transparency.

Depending on the time available, you may chose a different way to run this exercise. See Trainers' manual, Chapter 3, "Technical sessions".

Conclusion
(time: 5-8 minutes)

Summarise using a transparency with all the storage and handling rules. Point out that all are covered in the Action manual. Illustrate each rule with slides (if available). Invite questions and comments.
Session design

This presentation may be approached in much the same way as the presentation on materials storage and handling. One essential difference between the two subjects is the relative weight of productivity versus working conditions benefits. Better storage and handling has obvious benefits for productivity, cost, space and stock control, but the benefits in terms of working conditions are sometimes more difficult to see (for example, the probability of fewer accidents and less tiring work may not be apparent, especially if they were not made part of the design of improvements). With work-station design, the problem is reversed. It is easy to see that ergonomic improvements are more comfortable for the worker, but the relation to productivity is less clear. Many entrepreneurs believe that a more comfortable worker will tend to relax and work more slowly. This means that the productivity elements should be emphasised rather than neglected. This is especially important if the presenter is professionally oriented toward improved conditions for workers: in this case he or she may assume that improvements for workers are a sufficient justification, while the participants almost certainly will not.

While it is possible to concentrate on one or two main problems in this presentation, at least five minutes should be spent on each of the four rules.

The session is divided into four modules:

<table>
<thead>
<tr>
<th>Module</th>
<th>Purpose</th>
<th>Time available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>To arouse interest</td>
<td>2-3 minutes</td>
</tr>
<tr>
<td>Presentation of rules and examples</td>
<td>To communicate ideas and motivate</td>
<td>25-30 minutes</td>
</tr>
<tr>
<td>Exercise on hand tools</td>
<td>To improve awareness of proper tool design</td>
<td>7-12 minutes</td>
</tr>
<tr>
<td>Conclusion</td>
<td>To provide a summary and overview</td>
<td>5-8 minutes</td>
</tr>
</tbody>
</table>

Introduction
(time: 2-3 minutes)

Give the title of the session. Explain that having discussed ways of improving materials storage and handling in the production area, it is time now to have a close look at work-stations in order to improve comfort and work efficiency.

Consider giving a noteworthy example of improvements from a participating enterprise.

Present a list of ideas which will be discussed, possibly on posters. To make them more appealing you can use the "How to" format. For example:
- how to increase productivity by changing the position of tools;
- how to avoid wasted effort using simple devices;
- how to locate dials and controls to minimise mistakes;
- how to redesign a chair to help to increase productivity.

Indicate the exact time when the session will end. Invite the participants to contribute to the discussion.

Presentation of rules and examples
(total time: 25-30 minutes)

Organise this as follows:
(a) Show slides of a few practical improvements related to a rule. Explain the advantages and benefits. Invite comments from the participants.
(b) Present the relevant rule and make any necessary additional remarks, such as references to productivity, working conditions or the "survival and growth" exercise.

During the presentation of rules and examples, a motivational "seat-back" exercise is carried out. See after rules 1 and 2.

<table>
<thead>
<tr>
<th>Rule</th>
<th>Visual aids</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Keep materials, tools and controls within easy reach and at the appropriate height.</td>
<td>Good use of bins and tool holders.</td>
<td>A slide of a work-station with no order in the layout of tools and materials. Got the permission of the owner to use a &quot;negative example&quot; and don't indicate where it was taken.</td>
</tr>
</tbody>
</table>

Start seat-back exercise. Ask the participants to sit so that they cannot use their backrest or lean on the table or armrests. For this they should move to the front of their chair or turn it sideways. Ask them to make sure that their neighbours are not leaning on the table or backrest or otherwise "cheating". The seat-back exercise is continued during the presentation of the next rule.
Complete the seat-back exercise. Release the participants from not using their seat backs. Ask how their backs feel. Point out that this occurred in only five minutes. Ask the participants to imagine how much of a distraction the pain would become after several hours and how many rest opportunities they would need. Point out that the strain would be much worse in an awkward posture.

Summary: all chairs need a good back and a cushion.

<table>
<thead>
<tr>
<th>Rule</th>
<th>Visual aids</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve work postures for greater efficiency</td>
<td>A number of slides of ergonomically-sound standing and sitting work-stations where the &quot;elbow rule&quot; is observed. A transparency on the elbow rule for hand height. See Action Manual.</td>
<td>Get the permission of the owner to use a &quot;negative example&quot; and don't indicate where it was taken.</td>
</tr>
<tr>
<td>Use clamps, jigs, levers and other devices to save time and effort</td>
<td>A number of slides showing use of jigs, clamps, suspended tools, levers, chutes, counterbalances and other devices for saving workers' energy and time for productive work.</td>
<td></td>
</tr>
<tr>
<td>Improve displays and controls to minimise mistakes</td>
<td>Slides showing properly labelled displays and clear layout of switches, gauges, etc. A transparency can be used showing a typical visual layout with correct arrangement of dials and controls. See Action Manual.</td>
<td></td>
</tr>
</tbody>
</table>
Technical session guide – Productive machine safety

Before using this guide, read: Action manual, Chapter 5; and Trainers' manual, Chapter 3, "Technical sessions".

Remember: use local, positive examples; encourage participation; and highlight links between productivity and working conditions.

Session design

It should be kept in mind that the time available for this session does not permit systematic coverage of the most important aspects of occupational safety. It is restricted to machines and emphasises points closely related to productivity. It should not be converted into a standard lecture on machine guarding.

Perhaps the most convincing part of the session relates to feeding and ejection. It is absolutely essential to integrate examples of low-cost, locally-made and innovative feeding and ejection equipment and guards into the presentation. This should constitute a large part of the presentation (10 to 15 minutes). Numerous slides should be shown. The owners of the factories concerned can be asked to explain their experience and the rest of the participants should be encouraged to ask questions.

If appropriate facilities are available, it may be useful to consider videotape for some of the illustrations because of the difficulty of illustrating hazards with slides. It should be kept in mind, however, that videotape is much more difficult to use than slide photography. It requires editing, which can be time-consuming, and also requires special equipment.

The session is divided into five modules:

<table>
<thead>
<tr>
<th>Module</th>
<th>Purpose</th>
<th>Time available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>To arouse interest</td>
<td>2-3 minutes</td>
</tr>
<tr>
<td>Presentation of rules and examples</td>
<td>To communicate ideas and to motivate implementation</td>
<td>15-20 minutes</td>
</tr>
<tr>
<td>Review exercise on rules</td>
<td>To reinforce ideas and sharpen diagnostic and applications skills</td>
<td>8-10 minutes</td>
</tr>
<tr>
<td>Brainstorming exercise on personal protective equipment</td>
<td>To convince participants that personal protective equipment should only be used as a last resort</td>
<td>7-10 minutes</td>
</tr>
<tr>
<td>Conclusion</td>
<td>To provide a summary and overview</td>
<td>5-8 minutes</td>
</tr>
</tbody>
</table>

Introduction

(time: 2-3 minutes)

Give the title of the session and indicate its links with previous ones. The purpose is to find ways of making work more productive and safer and to improve the efficiency of available machines and equipment.

Consider starting by giving an example of improvements from a participating enterprise.

Present a list of ideas which will be discussed, perhaps on posters. Use the "How to" form when possible. For example:

- how a simple feeder can double productivity;
- how to select reliable machine guards which do not reduce efficiency;
- how to increase workers' safety consciousness;
- why the use of personal protective equipment should be a very last resort.

Indicate the exact time when the session will end. Invite participation.

Presentation of rules and examples

(15-20 minutes)

Concentrate your efforts on presenting the two most important technical issues: feeding and ejection devices and choice of the right type of machine guard.

Organise this as follows:

(a) Show slides of a few practical improvements related to a rule. Explain the advantages and benefits. Invite comments from the participants.

(b) Present the relevant rule and make any additional necessary remarks, such as references to productivity, working conditions or the "survival and growth" exercise.

<table>
<thead>
<tr>
<th>Rule</th>
<th>Visual aids</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Use feeding and ejection devices to increase productivity and reduce machine hazards</td>
<td>Slides of different types of feeding and ejection devices – plunger, carousel, gravity. Transparencies of different types of feeder. See Action Manual.</td>
<td>Use transparencies if you feel that there is a need to explain the use of types of feeder which have not been shown on the slides.</td>
</tr>
<tr>
<td>2 Use the right types of guard</td>
<td>Slides of different types of machine guard: fixed, interlocking, adjustable, machines with two-hand controls. Transparencies of different types of guard. See Action Manual.</td>
<td>Use transparencies if you feel that there is a need to explain the use of types of guard which have not been shown on the slides.</td>
</tr>
</tbody>
</table>
Review exercise on rules
(time: 8-10 minutes)
In order to check whether the participants fully understand the rules, show a few slides of different machine tools in operation with a clear view of the hazardous zone and the means of accident prevention. Ask the participants to evaluate the soundness of the protection and its possible impact on productivity.

Brainstorming exercise on personal protective equipment
(time: 7-10 minutes)
Ask the participants "Why do workers try to avoid the use of personal protective equipment?" Record their answers on a board or chart. Draw the conclusion that the equipment causes some inconvenience, needs proper maintenance and may reduce productivity. It tends to be expensive and considerable supervisory efforts are needed to ensure that workers use it. The equipment therefore should only be used as a last resort.

Present the rule:

Eliminate the hazard, or install guards, or, as a last resort, use personal protective equipment — always in this order.

Make a reference to the Action manual.

Conclusion
(time: 5-8 minutes)
Summarise the rules in the Action manual using a transparency:
- give your machines a productivity check;
- eliminate the hazard; or install guards; or, as a last resort, use personal protective equipment — always in this order;
- purchase safe machines;
- use feeding and ejection devices to increase productivity and reduce machine hazards;
- use the right type of guard;
- maintain machines properly;
- if no other method of protection is available, use personal protective equipment.

Where appropriate, illustrate with slides. Explain that more information is available in the Action manual. Invite questions and comments.
Technical session guide – Control of hazardous substances

Before using this guide, read: Action manual, Chapter 6; and Trainers' manual, Chapter 3, "Technical sessions".

Remember: use local, positive examples; encourage participation; and highlight links between productivity and working conditions.

Rehearse your session

Respect the time limit: 45 minutes

Session design

The session tends to work well as it is described below, but it may need to be modified to take into account the characteristics of the enterprises concerned. If a significant number of the participants' enterprises have a particular hazard, it is worth assigning a large amount of session time for discussion of this problem and practical solutions to it, and to cut short the time spent on the less relevant rules.

The session is divided into four modules:

<table>
<thead>
<tr>
<th>Module</th>
<th>Purpose</th>
<th>Time available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>To arouse interest</td>
<td>2-3 minutes</td>
</tr>
<tr>
<td>Presentation</td>
<td>To communicate ideas and to motivate</td>
<td>20-25 minutes</td>
</tr>
<tr>
<td>Review</td>
<td>To reinforce ideas and sharpen diagnostic and applications skills</td>
<td>10-15 minutes</td>
</tr>
<tr>
<td>Conclusion</td>
<td>To provide a summary and overview</td>
<td>5-8 minutes</td>
</tr>
</tbody>
</table>

Introduction

(2-3 minutes)

Give the title of the session, and present a transparency or poster with a short list of the ideas which are going to be discussed. Use the "How to" format where possible.

For example:
- how to replace expensive solvents by other chemicals;
- how to improve local ventilation without increasing electricity consumption;
- how to reduce loss of chemicals and save energy.

Indicate the exact time when the session will end. Invite participation.

Presentation of rules and examples

(total time: 20-25 minutes; 4-7 minutes per rule)

Select for presentation only three to five rules, but be sure that they are of great importance to the participants.

Organise this as follows:
(a) Show slides of a few practical improvements related to a rule. Explain the advantages and benefits. Invite comments from the participants.
(b) Present the relevant rule and make any necessary additional remarks, such as references to productivity, working conditions or the "survival and growth" exercise.

Before starting on the first rule, pass around to the participants samples of harmful substances (especially organic solvents) which are used at some of the participating enterprises. Ask them how they think these chemicals affect productivity, quality of work and workers' health. Next, send around alternative, less harmful samples of water-based chemicals (paints, lacquer, glues, etc.) and alkalis. Ask the participants who use these alternative products to explain their benefits. Encourage discussion.

<table>
<thead>
<tr>
<th>Rule</th>
<th>Visual aids</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Replace a dangerous substance with a less dangerous one</td>
<td>Slides showing samples of harmful and less harmful substances (see above).</td>
</tr>
<tr>
<td>2</td>
<td>Use lids, covers, maintenance and isolation to control hazards and reduce losses</td>
<td>Slides showing use of enclosures or separate rooms to minimise risk areas.</td>
</tr>
<tr>
<td>3</td>
<td>Save energy used to control overheating of chemicals</td>
<td>Slides showing use of thermostats to avoid overheating of chemicals.</td>
</tr>
<tr>
<td>4</td>
<td>Clean properly – don't spread dust</td>
<td>Slides showing use of vacuums for cleaning.</td>
</tr>
</tbody>
</table>

Before starting with Rule 5, demonstrate the difference between pushing and pulling air. Place a fan on a small table. Use smoke to demonstrate first the pulling and then the pushing effect of the fan. Explain how this principle can be utilised in low-cost ventilation. Before the training session, rehearse and make sure that the room's ventilation does not interfere with the demonstration.

Pulling should be demonstrated by showing the closest distance with no exhaust effect. Pushing is then demonstrated at the same distance, then at double and triple this distance to show the much stronger effect. Avoid blowing concentrated smoke from tubes directly at people.
<table>
<thead>
<tr>
<th>Rule</th>
<th>Visual aids</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Make local ventilation cost-effective</td>
<td>Slides showing examples of low-cost ventilation, especially push-pull and use of passive collectors. Transparencies based on the Action Manual can be used.</td>
<td></td>
</tr>
<tr>
<td>6 As a last resort, use personal protective equipment</td>
<td>Examples of masks, gloves and other equipment related to chemical hazards. Ask participants if they know the difference between masks for fumes and those for dust, and how these masks are used.</td>
<td></td>
</tr>
<tr>
<td>7 Don't eat or bring home dangerous substances</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Review exercise**

*Time: 10-15 minutes*

Show a few slides of a production area of one of the participating enterprises with a number of chemical hazards and some good practices. Ask the participants to evaluate the situation, and to indicate the good points and the main problems. Then ask what improvements can be suggested. List those on a board, chart or transparency.

Depending on the time available, you may choose a different way to run this exercise. See Trainers' Manual, Chapter 3, "Technical sessions".

**Conclusion**

*Time: 5-8 minutes*

Summarise using a transparency with all the chemical hazards rules. Point out that all are covered in the Action manual.

Illustrate each rule by one or two slides. Invite questions and comments.
Technical session guide – Lighting

Before using this guide, read: Action manual, Chapter 7; and Trainers’ manual, Chapter 3, “Technical sessions”.

Remember: use local, positive examples; encourage participation; and highlight links between productivity and working conditions.

Session design

Lighting is a very complex subject to discuss in a single session. Firstly, the Action manual chapter contains much more information than can be presented briefly. Second, lighting problems are difficult to illustrate by slides. Expert photographers can adjust their cameras to show dark conditions, glare, etc., in a convincing way but simple flash shots tend to hide the problems. A special effort will need to be made.

Participant exercises are likewise difficult for this subject. There are many aspects to good lighting (intensity, direction, balance between local and general lighting, glare, task background) and these will vary considerably according to the task carried out and the eyesight of the workers. These points should be taken into consideration in the design of any exercise. A special exercise has been designed which should demonstrate to the participants that lighting affects productivity.

The session is divided into five modules:

<table>
<thead>
<tr>
<th>Module</th>
<th>Purpose</th>
<th>Time available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>To arouse interest</td>
<td>2-3 minutes</td>
</tr>
<tr>
<td>Exercise on adequate light</td>
<td>To demonstrate the importance of good lighting</td>
<td>10-12 minutes</td>
</tr>
<tr>
<td>Presentation of rules and examples</td>
<td>To communicate ideas and motivate implementation</td>
<td>17-20 minutes</td>
</tr>
<tr>
<td>Review exercise</td>
<td>To improve diagnostic and application skills</td>
<td>7-10 minutes</td>
</tr>
<tr>
<td>Conclusion</td>
<td>To provide a summary and overview</td>
<td>5-8 minutes</td>
</tr>
</tbody>
</table>

Introduction

(time: 2-3 minutes)

Give the title of the session. Point out that lighting is very closely related to productivity and that many lighting improvements can be made at little or no cost – they can even save money.

If possible, describe a striking example of the benefits of good lighting in one of the participants’ enterprises.

Present a list of ideas to be discussed using a transparency or posters, such as:
- how to reduce your electricity bill by using natural light;
- how to get better lighting out of your existing fixtures;
- how to raise productivity and quality by using local lighting and avoiding glare;
- how lighting maintenance can save you money.

Indicate the exact time when the session will end. Invite participation.

Exercise on adequate light

(time: 10-12 minutes)

The task of the exercise is to let the participants discover for themselves the importance of good lighting for productive and quality work.

Be sure to rehearse the exercises with training staff and to check the ways light can be dimmed in the training room.

Distribute copies of the form annexed to this guide (see p. 51) and describe how it is used. For each exercise, participants will be given one minute to draw lines connecting every second corner of each figure. Thus, a six-sided figure would have a triangle drawn inside it. Circles are to be ignored. Participants should follow the numbers. They are to be careful about quality. Demonstrate on a board or flipchart.

Darken the room so that the task is difficult. Ask the participants to start work. Give them one minute to complete exercise 1 and be sure they stop promptly at the end.

Raise the lights to a good level and give the participants one minute to complete exercise 2. Ask each participant to indicate how many drawings were made in each exercise and calculate the increase in productivity. (The percentage increase in productivity is calculated by dividing the number of drawings in exercise 2 by the number of drawings in exercise 1, then multiplying that figure by 100, and then subtracting 100.) Ask them to indicate how many drawings were unclear or in error. This is an indication of poor quality.

End the exercise by pointing out that in real life, many factors could change the results, such as the nature of the task and the eyesight of the workers.

Emphasise that poor lighting causes visual fatigue, which can make the long-run results even worse than shown by the exercise.

Presentation of rules and examples

(time: 17-20 minutes)

Select for presentation only three to five rules, but be sure that they are of great importance for the participants.

Organise this as follows:
(a) Show a few slides or transparencies related to a rule. Explain these ideas and invite comments from the participants.
(b) Present the relevant rule and make any necessary additional remarks, such as references to productivity, working conditions or the “survival and growth” exercise.
<table>
<thead>
<tr>
<th>Rule</th>
<th>Visual aids</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1 Make full use of daylight</td>
<td>Slides showing good sources of daylight: skylights, use of translucent plastic roof panels, windows placed high up. Work-stations with high lighting requirements placed close to windows.</td>
<td>This subject is usually very relevant for small enterprises.</td>
</tr>
<tr>
<td>2 Avoid glare</td>
<td>Slides showing machine tools or work-stations situated in such a way that natural light comes from the side; lamps with deep shades; use of temporary barriers around an electric arc welder. A slide of a machine operator facing a window, or an open lamp in front of a worker.</td>
<td>Use transparencies to illustrate ideas which are difficult to show with slides. Do this after presenting the rule. Get the permission of the owner to use a &quot;negative example&quot; and don't indicate where it was taken. This subject is usually very relevant for small enterprises.</td>
</tr>
<tr>
<td>3 Choose an appropriate visual task background</td>
<td>Slides showing use of screens in the field of vision of the worker to reduce visual distraction; use of a translucent table top with backlight. Transparencies showing low partitions, backlighting and appropriate background colours.</td>
<td>Use transparencies to illustrate ideas which are difficult to get on slides. Do this at the end of presentation after presenting a rule.</td>
</tr>
<tr>
<td>4 Find the right place for light sources</td>
<td>Transparencies can be made on repositioning of lights and bench lighting.</td>
<td>It is very difficult to make appropriate slides for this subject.</td>
</tr>
<tr>
<td>5 Avoid shadows</td>
<td>Slides of local lighting for precision work. Transparencies covering sharp shadows, direct and reflected light, general and local lighting. See Action Manual.</td>
<td>It is very difficult to make appropriate slides for this subject.</td>
</tr>
<tr>
<td>6 Ensure regular maintenance</td>
<td>Transparencies or poster &quot;without proper maintenance you will soon get half of the initial light for the same amount of money&quot;.</td>
<td>It is very difficult to make appropriate slides for this subject. Explain the importance of regular cleaning and bulb replacement. This subject is usually very relevant for small enterprises.</td>
</tr>
</tbody>
</table>

**Review exercise**

(time: 7-10 minutes)

Show slides of different workplaces and operations. Indicate the light sources and explain the type and level of precision of the tasks being performed.

Ask the participants to evaluate the situations in terms of good points, main problems and suggested improvements.

**Conclusion**

(time: 5-8 minutes)

Make a final summary of the issues being discussed. Show a transparency with the rules and briefly explain the rules which were not covered.

Illustrate each rule with one or two slides (if available) or transparencies. Refer to the Action Manual. Invite questions and comments.
Annex

Form for exercise on adequate light

Exercise 1

Exercise 2
Technical session guide – Welfare facilities

Before using this guide, read: Action manual, Chapter 8; and Trainers' manual, Chapter 3, “Technical sessions”.

Remember: use local, positive examples; encourage participation; and highlight links between productivity and working conditions.

Session design

Several types of welfare facility are basic and essential. These should be discussed in all cases. They include provision of water or other beverages; sanitary facilities; first-aid equipment; and rest and eating areas.

Depending on local conditions, the other types of facility can be covered in more or less depth. Feeding facilities, while not essential in most cases, are often very important.

Organising the session according to rules helps to make the connection between welfare facilities and the goals of the employers.

The cost-and-benefits exercise usually results in a lively discussion which helps to make its point. The idea that the benefits of welfare facilities outweigh the costs is essential.

The session is divided into four modules:

<table>
<thead>
<tr>
<th>Module</th>
<th>Purpose</th>
<th>Time available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>To arouse interest</td>
<td>2-3 minutes</td>
</tr>
<tr>
<td>Presentation of rules and examples</td>
<td>and motivate communication</td>
<td>18-20 minutes</td>
</tr>
<tr>
<td>Costs and benefits exercise</td>
<td>To show that benefits exceed costs</td>
<td>8-12 minutes</td>
</tr>
<tr>
<td>Conclusion</td>
<td>To provide a summary and overview</td>
<td>5-8 minutes</td>
</tr>
</tbody>
</table>

Introduction

(time: 2-3 minutes)

Give the title of the session. Give one good example of well-organized welfare facilities you came across at one of the participating enterprises. If possible, get the owner to describe the benefits in terms of motivation, loyalty, good industrial relations, etc. (Be sure to arrange this in advance with the owner.) Slides should be shown and perhaps a poster or transparency listing the benefits described by the owner.

Set a definite time when the session will end. Invite participation.

Presentation of rules and examples

(time: 18-20 minutes)

Organise this as follows:

(a) Show slides of a few practical improvements related to a rule. Explain the advantages and benefits. Invite comments from the participants.

(b) Present the relevant rule and make any necessary additional remarks, such as references to productivity, working conditions or the “survival and growth” exercise.

<table>
<thead>
<tr>
<th>Rule</th>
<th>Visual aids</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Make sure essential facilities serve their purpose</td>
<td>Slides showing drinking water arrangements: bottles, containers, fountains, filters. Wash stands, toilet facilities. Use transparencies if necessary to show an appropriate idea which is not yet in use at the participating enterprises. See Action manual.</td>
<td>Explain why these facilities are essential. See Action manual.</td>
</tr>
<tr>
<td>2 Be ready for emergencies</td>
<td>Slides showing first-aid boxes: placement, contents, instructions.</td>
<td>A well-stocked first-aid box can be brought in and displayed, but it should be reasonably priced.</td>
</tr>
<tr>
<td>3 Make sure that rest means recovery</td>
<td>Slides showing rest areas.</td>
<td>Explain the relation of rest breaks to productivity and the need to leave the work-station for rest.</td>
</tr>
<tr>
<td>4 Use low-cost facilities to attract and retain the best workers</td>
<td>Slides showing changing rooms, lockers and showers; eating areas and canteens; medical cabinets and dispensaries; transport facilities and services; storage for bicycles and motorcycles; recreation facilities; factory child-care rooms.</td>
<td>Use several slides for each topic, wherever possible showing practical problems of space, cost, etc.</td>
</tr>
</tbody>
</table>

Costs and benefits exercise

(time: 8-12 minutes)

Ask the participants to estimate the weekly wage bill for a local enterprise with 25 workers (the number should be decreased or increased if the participant enterprises on average have fewer or more workers). Write the consensus on the board or flipchart. The total amount equals about two per cent of annual wages.
Next, show a transparency listing some welfare facilities which have been found in some of the better enterprises, such as a drinking fountain, lockers, eating areas, canteens, shelters for bicycles, etc. Show slides of each of the facilities and give the owner's estimate of total or annual costs. (Be sure to obtain these estimates in advance.)

List the costs next to the items on the list of facilities. Add them up.

Ask the participants to list the possible advantages of good welfare facilities. Write them down.

Ask the participants to compare benefits and costs. Write these costs down on a board or chart. Encourage a short discussion.

Finally, ask for comments on the feasibility of improvements.

**Conclusion**

*(time: 5-8 minutes)*

Make a final summary of the issues discussed. Show a transparency with the rules. Slides can be used to give additional visual support for each rule. Refer to the *Action manual*. Invite questions and comments.
Technical session guide – Premises

Before using this guide, read: Action manual, Chapter 9; and Trainers’ manual, Chapter 3, “Technical sessions”.

Remember: use local, positive examples; encourage participation; and highlight links between productivity and working conditions.

Select for presentation only those rules which are of great importance for the group and for which you have good local positive examples.

Organise as follows:

(a) Show slides of a few practical improvements related to a rule. Explain the advantages and benefits. Invite comments from the participants.

(b) Present the relevant rule and make any necessary additional remarks, such as references to productivity, working conditions or the “survival and growth” exercise.

### Session design

Few small enterprises have premises which were specially designed to meet their production requirements. For this reason – and others – there are always problems of space, ventilation and transport as well as fire and electrical hazards. Improvements in this area are sometimes expensive and often interfere with production flow. Changes tend to be held back until the situation becomes absolutely intolerable. What the owners need is not so much additional knowledge, but the motivation to start improvements. Motivation can best be developed through observation of positive local examples and exchange of ideas.

Keeping this in mind, the session should be built around a few impressive local positive examples, grouped by rules. The trainer should especially carefully try to accentuate positive solutions rather than problems and limitations.

This session should take only 30 minutes or so.

The session is divided into three modules:

<table>
<thead>
<tr>
<th>Module</th>
<th>Purpose</th>
<th>Time available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>To arouse interest</td>
<td>2-3 minutes</td>
</tr>
<tr>
<td>Presentation</td>
<td>To communicate ideas and motivate</td>
<td>20-35 minutes depending on the number of rules covered</td>
</tr>
<tr>
<td>Implementation</td>
<td>Slides of appropriate floors for specific types of production processes. Floors causing production problems.</td>
<td></td>
</tr>
</tbody>
</table>

### Introduction

(time: 2-3 minutes)

Give the title of the session.

Stress that almost all improvements are connected with work premises.

Give an outstanding example of improvements at a participating enterprise.

Indicate the exact time when the session will end.

Invite participation.

### Presentation of rules and examples

(total time: 20-35 minutes)

<table>
<thead>
<tr>
<th>Rule</th>
<th>Visual aids</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protect your factory from outside heat</td>
<td>Slides of trees and bushes around the factory building as natural protection against heat. Shades used to reduce heat penetration.</td>
<td>Appropriate only for hot climates.</td>
</tr>
<tr>
<td>Let natural air flow improve ventilation</td>
<td>Slides showing high placement of exhaust fans, openings in the roof for escape of hot air, louver-type windows for horizontal air flow. Transparencies showing ventilation and air circulation, air flow routes, exhaust deflector. See Action manual.</td>
<td>Always start with presentation of “live” examples on slides. Use transparencies only at the end, and only if you feel that there is a need to clear up something by showing a diagram or to propose a solution which is not utilised at the participating enterprises. This subject is usually very relevant for small enterprises.</td>
</tr>
<tr>
<td>Eliminate or isolate sources of pollution</td>
<td>Slides showing isolation of polluting machines (use of hoods, screens, etc.). Slides on relocation of polluting machines or of work-stations (moving them outside or away from workers). Machines and equipment which were introduced to replace polluting ones.</td>
<td>This subject is usually very relevant for small enterprises.</td>
</tr>
<tr>
<td>Improve your floor</td>
<td>Slides of appropriate floors for specific types of production processes. Floors causing production problems.</td>
<td></td>
</tr>
</tbody>
</table>

### Conclusion

To provide a summary and overview 5-8 minutes
<table>
<thead>
<tr>
<th>Rule</th>
<th>Visual aids</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. <strong>Build flexibility and adaptability into plant layout</strong></td>
<td>Slides showing wide passageways kept clear, with marked boundaries. Use of protective barriers. Use of modular equipment and furniture which is easy to move, split up or replace. Overhead and uniform distribution of general lighting and supply lines.</td>
<td><strong>This subject is usually very relevant for small enterprises.</strong></td>
</tr>
<tr>
<td>6. <strong>Prevent fire and electrical accidents</strong></td>
<td>Slides showing clearly marked and unobstructed escape routes and exits; appropriate fire extinguishers and fire fighting equipment near the sources of potential fires; main power switches in easy reach and clearly marked; use of separate earthing wires connected to the independent earthing rods.</td>
<td><strong>This subject is usually very relevant for small enterprises.</strong></td>
</tr>
</tbody>
</table>

### Conclusion

*(time: 5-8 minutes)*

Make a final review of all rules (including the ones which were not discussed). Show a transparency with the rules. Slides and transparencies can be used to provide additional visual support for each rule.

Refer to the *Action manual*. Invite questions and comments.
Technical session guide – Work organisation

Before using this guide, read: Action manual, Chapter 10; and Trainers' manual, Chapter 3, "Technical sessions".

Remember: use local, positive examples; encourage participation; and highlight links between productivity and working conditions.

Rehearse your session

Respect the time limit: 45 minutes

Session design

This subject is particularly difficult to handle and particularly important. The ideas will be new to many of the participants and run counter to preconceived ideas. At the same time, most participants will consider that they know a great deal about work organisation. In fact, poor organisation is usually the greatest limit on their productivity.

Trainers who are familiar with modern techniques built on task analysis, task combination, multitasking, group work, etc., will be able to add examples to the presentation, especially if they are familiar with the "flexible specialisation" strategy which is so important to small-scale industry in the industrialised countries.

There are at least three reasons why the main technique used in the technical sessions – presenting ideas grouped around rules – is not appropriate in this case:

- new forms of work organisation are still very rare in small enterprises. There is little chance of finding a sufficient number of examples to illustrate the rules;
- it is difficult or even impossible to show work organisation ideas using slides (video works much better);
- since new approaches contradict the traditional beliefs of small entrepreneurs, it is very unlikely that the presentation of examples can get them to take action.

Instead of trying to convince by examples, this session is built around two exercises which give the participants a chance to figure out for themselves what economic benefits they can get by changing the organisation of work.

The session is divided into four modules:

<table>
<thead>
<tr>
<th>Module</th>
<th>Purpose</th>
<th>Time available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>To arouse interest</td>
<td>2-3 minutes</td>
</tr>
<tr>
<td>Exercise on task elimination</td>
<td>To demonstrate</td>
<td>10-15 minutes</td>
</tr>
<tr>
<td></td>
<td>productivity effects</td>
<td></td>
</tr>
<tr>
<td>Exercise on assembly line</td>
<td>To overcome traditional</td>
<td>20-25 minutes</td>
</tr>
<tr>
<td>redesign</td>
<td>attitudes about task</td>
<td></td>
</tr>
<tr>
<td></td>
<td>division and job</td>
<td></td>
</tr>
<tr>
<td></td>
<td>simplification</td>
<td></td>
</tr>
<tr>
<td>Conclusion</td>
<td>To provide a summary</td>
<td>8-10 minutes</td>
</tr>
<tr>
<td></td>
<td>and overview</td>
<td></td>
</tr>
</tbody>
</table>

Introduction

(time: 2-3 minutes)

Give the title of the session. Explain that prior to this last technical session, the most essential elements of working conditions and environment that provide a basis for productive work have been covered. But, to be productive, work should be properly organised. It should be decided what, where, how and by whom each work operation should be performed. This is the most difficult but at the same time the most potentially beneficial type of improvement.

Point out that many large enterprises, especially those in industrialised countries, have adopted new, flexible organisational systems which have made them much more competitive. If possible, give examples related to the specific industries represented on the course. It can be useful to mention quality circles, total quality control, "just in time" scheduling, etc. Some of the answers to the "survival and growth" exercise may be useful. A local example, if available, can also arouse interest.

Explain that this session basically consists of two exercises. Participation is very important. However, it is also necessary to respect the time schedule.

Indicate the exact time when the session will end. Invite participation.

Exercise on task elimination

(time: 10-15 minutes)

The purpose of this first exercise is to demonstrate how large the productivity benefits can be when tasks are analysed and reallocated or eliminated. The exercise is based on Figure 138 in the Action manual, and transparencies or posters should be prepared which show separately the part to be drilled and the different solutions.

Start by showing the part and ask the participants to suggest ways of eliminating tasks for more efficient work. They should come up with the following ideas:

- make a jig to enable drilling a pile of plates in one operation;
- get a multi-drill head to drill all the holes in one operation;
- combine the above two ideas;
- redesign the product in such a way that some or all of the holes are no longer necessary.

The first three possibilities can be illustrated with the transparencies or posters.

Show slides of examples of tools and machines which combine operations. It is especially effective to show two similar parts or products produced by methods involving different numbers of tasks.

Recommend that participants critically examine each task and operation in their factories, eliminating them or combining them. Stress the importance of making such critical evaluations before deciding to assign the job to a worker or to automate the operation.

Exercise on the redesign of an assembly line

(time – 20-25 minutes)

This exercise is designed to allow the participants to discover for themselves the advantages of task
combination, job enrichment and group work, and thereby to start to change their traditional beliefs about the division of tasks and job simplification.

Conduct an exercise assuming that there are four tasks required to make a simple assembly. These tasks take the workers on average 20, 30, 40 and 22 seconds, respectively. Show a transparency with four workers in a row and the time required for each operation next to each worker. Ask the participants: if the workers are placed on an assembly line with four stations, how long does it take on average to make each assembly?

After some discussion, the participants should agree that the total time will be 40 seconds. The line can go no faster than the slowest task.

Now show a transparency with two lines of two workers each. In each case, the first worker does the first two tasks (the transparency should show a time of 20 plus 30 seconds) and the second worker does the second two tasks (40 plus 22 seconds). How long does it now take to make each assembly?

After a brief discussion, everyone should see that the answer is 31 seconds (each of the two lines produces one part every 62 seconds).

The third possibility is to allow each of the four workers to make the complete assembly. Show a transparency which illustrates this and ask how long each assembly will take to make. In this case, the participants should see that each assembly will take 28 seconds.

Ask the participants for further advantages of having each worker make a complete assembly. The answers should include:

- there is no need to make complicated calculations to avoid lost time;
- each worker has clear responsibility for the results;
- incentive systems work better;
- it is easy to adjust to absences, increases and decreases in production, product modifications, etc.;
- workers develop more skills.

Summarise by pointing out that many kinds of work can be combined in the same way. It is especially desirable to add operations requiring more responsibility and different skills (for example machine set-up and repair, inspection). This increases the workers' motivation and sense of responsibility and in general adds to flexibility and efficiency.

Point out that there is another potentially very beneficial way of resolving the same problem — to delegate the work to a group which decides by itself about the division of tasks and work organisation.

Use slides showing group work-stations or (as a last resort) transparencies based on figures 144-146 in the Action manual.

Ask the participants to list the potential benefits of group work. These can include:

- less need for space;
- easier supervision;
- savings in the time needed for new workers to learn their job;
- better feedback between the operators and, as a result, fewer rejects;
- improved communication between workers without slowing down their work;
- rearrangement of work by the workers so that everyone's time and skills are fully used and no one is overstressed.

Explain that shifting over to group work should be done gradually, and remind participants that the efficiency of group work depends on many factors, such as the size and composition of groups as well as workers' attitudes.

Conclusion

(time: 8-10 minutes)

Make a final review of the issues discussed. Show a transparency with the rules for effective organisation of work:

- get rid of extra tasks and operations;
- defeat monotony to keep workers alert and productive;
- install buffers to make the work flow smoothly;
- design responsible, flexible jobs;
- set up autonomous groups to improve efficiency and cut supervisory costs;
- make the organisation of production fit your business objectives.

Each rule should be reviewed for one or two minutes. One or two slides or transparencies can be used to give additional visual support, which will be needed especially for rules which were not discussed.

Point out that more information on this subject is available in the Action manual.

Invite questions and comments.
Supporting materials for Chapter 4: Action Plans and follow-up

Guide – Group work

This Guide covers three main points:
- setting up groups;
- group work on Action Plans; and
- group work on the “small, low-cost and clever” contest.

Groups will also be called upon to prepare final presentations, which are covered by a separate handout.

This Guide should be read in conjunction with the section on “Group work” in Chapter 3 and the information on group co-ordinators in Chapter 1.

Setting up work groups

The division of participants into groups should be handled as informally as possible. It may be possible to do without a formal presentation. For example, the groups may have agreed upon their composition during discussions at meals or breaks or during the checklist exercise. The content of their work may be explained by the group co-ordinators in a similarly informal way. However, the following points are essential and must be established before anyone leaves at the end of the initial workshops:

- all participants must know which group they belong to and who is their group co-ordinator;
- group co-ordinators (and preferably every member of the group) must have the name, address, telephone number and any other essential information concerning each group member;
- participants must know that they are expected to use the checklist in their own enterprise, visit the enterprises of other group members, receive the visit of group members at their factory and contribute to the completion of the Action Plan;
- each group must have established a preliminary schedule for all group work specifying the times and places for factory visits and for completion of the Action Plan;
- each group should make a preliminary plan for developing improvements for the “small, low-cost and clever” competition.

If it has not been possible to set up groups before the last of the initial workshops, take the following steps before it ends:

- On the basis of informal consultations, prepare in advance a proposed division of participants into groups. Consider industry, location and group size.
- Announce your proposals and ask the groups to sit together. Announce that anyone may change groups but that it must be done now. Allow a period for movement and possible group changes.
- Try hard to keep groups from having more than eight members. Six or seven is ideal.
- Introduce the group co-ordinators and invite them to join groups.
- If appropriate, ask the participants to choose a name for their group and to write it on a group name card.

Action Plans

Be sure you have enough copies of the Action Plan
(20 pages per group) and the model completed plan (one per participant)

Group work on the Action Plans and on the “small, low-cost and clever” contest should be explained just before the end of the initial workshops.

First, a trainer should explain the value of group work. It has already been demonstrated several times during the course that “two heads are better than one” and that everyone’s enterprise can benefit from being looked at by fresh eyes. Many of the participants have experience and knowledge which can be very productively applied in other enterprises.

It should then be explained that each group will:
- visit every group member’s factory;
- complete a checklist for each factory;
- prepare an Action Plan for their group as a whole.

Distribute a copy of the sample Action Plan to each participant. (Consider also showing a transparency with a completed Action Plan.) Explain that the Action Plans are to be completed for the group as a whole, but that some improvements from each enterprise should be included. Each technical area will have its own separate page or pages. The Action Plans list the name of the enterprise and describe its intended action. More than one action can be included per enterprise for each topic. All enterprises should have at least three or four intended actions, preferably more.

Distribute the extra copies of the checklist and recommend making good use of the checklist in preparing Action Plans.

Make the point that if there are any technical questions that the group cannot solve and that are not covered in the Action manual, the trainers are available as consultants.

The “small, low-cost and clever” contest

This contest is a very effective way of arousing the competitive instincts of the participants in a constructive way. Its purposes are to:
- stimulate the participants to develop and implement some improvements before the end of the programme;
- facilitate group dynamics by developing close co-operation and mutual support among the group members;
- make the programme more exciting and more attractive for the participants.

The contest should be described immediately after the Action Plans have been explained.

The contest entries should have the following characteristics:
- They must improve both working conditions and productivity.
The entry must be applied in at least one enterprise in the group before the final workshop. All work on it must be finished.

- The entry should be illustrated by before-and-after slides and any other available means.
- Each group will make a three-to-five-minute presentation of its entry at the final workshop.

It is a good idea to develop several possible entries, but only one can be selected by the group to present as its official entry.

Groups should be encouraged to use the full time available to develop a good entry. A good start is the Action Plan. The mid-course workshop gives more useful information.

It is a good idea to allow 15 minutes at the end of the mid-course workshop for each group to discuss its entry.

The group co-ordinators should closely follow progress in development and implementation of improvements and should provide encouragement and support if this is needed. Groups should be asked to set definite dates for taking "before-and-after" slides.

To choose the winner, a special group of judges should be nominated or the participants may be asked to vote. The speakers at the closing ceremony could be the judges. The winners should be given prizes and/or certificates. The improvements made by the other groups should also be praised.

At the end of the initial workshops, groups should be allowed to ask any questions they have. They should then discuss the Action Plans and the contest in their groups.

Make sure that each group co-ordinator has been able to set up a schedule of work that is practical, preferably starting as early as possible. As soon as the schedules are ready, the Action manual can be distributed. (It is best to distribute the Action manual at the end of the initial workshops as a reward for attendance, thus preventing participants from reading the manuals during the technical sessions.)
Handout
ACTION PLAN

<table>
<thead>
<tr>
<th>Group:</th>
<th>Page:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of improvement:</td>
<td>Date:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enterprise name</th>
<th>Description of Improvement</th>
<th>Location inside the factory</th>
<th>Description</th>
<th>Approximate date of completion</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

* Separate sheets should be prepared for each of the following subjects: materials storage and handling, work-stations, productive machine safety, control of hazardous substances, lighting, welfare facilities, premises, work organisation.
Model completed handout

ACTION PLAN

Group: Metal industries

Type of improvement: * Materials storage and handling

<table>
<thead>
<tr>
<th>Enterprise name</th>
<th>Description of improvement</th>
<th>Approximate date of completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise A</td>
<td>Whole factory</td>
<td>Clear passageways and paint lines.</td>
</tr>
<tr>
<td>Enterprise B</td>
<td>Near assembly area</td>
<td>Put tools on wheels.</td>
</tr>
<tr>
<td></td>
<td>In storage room</td>
<td>Make storage racks for sheet metal.</td>
</tr>
<tr>
<td>Enterprise C</td>
<td>Near drills and punches</td>
<td>Place bins.</td>
</tr>
<tr>
<td></td>
<td>Tool room</td>
<td>Reorganise tool room and establish tool stock control.</td>
</tr>
<tr>
<td></td>
<td>Between end of production line and dispatch area</td>
<td>Add a gantry for moving heavy items.</td>
</tr>
<tr>
<td>Enterprise D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprise E</td>
<td>Whole factory</td>
<td>Clean and clear up floor and passageways.</td>
</tr>
<tr>
<td>Enterprise F</td>
<td>From inspection area to storage</td>
<td>Design and build mobile storage racks for finished goods.</td>
</tr>
<tr>
<td></td>
<td>From storage to assembly area</td>
<td>Use pallets to move parts.</td>
</tr>
<tr>
<td></td>
<td>Whole factory</td>
<td>Purchase hand truck for moving heavy items.</td>
</tr>
</tbody>
</table>

* Separate sheets should be prepared for each of the following subjects: materials storage and handling, work-stations, productive machine safety, control of hazardous substances, lighting, welfare facilities, premises, work organisation.
Model completed handout

ACTION PLAN

Group: Wood

Type of improvement: Work-stations

<table>
<thead>
<tr>
<th>Enterprise name</th>
<th>Description of improvement</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise R</td>
<td>Assembly area</td>
<td></td>
</tr>
<tr>
<td>Enterprise S</td>
<td>Painting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lathes</td>
<td></td>
</tr>
<tr>
<td>Enterprise T</td>
<td>Hand drilling area</td>
<td></td>
</tr>
<tr>
<td>Enterprise U</td>
<td>Sanding</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Saws</td>
<td></td>
</tr>
<tr>
<td>Enterprise V</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Provide special clamps for gluing
- Provide chairs for workers doing hand-painting
- Provide platforms for workers to stand on
- Suspend drills within easy reach
- Provide a table for sanding work
- Add a fixture to guide wood pieces

* Separate sheets should be prepared for each of the following subjects: materials storage and handling, work-stations, productive machine safety, control of hazardous substances, lighting, welfare facilities, premises, work organisation.
# Model completed handout

## ACTION PLAN

**Group:** Electronics

**Type of improvement:** Lighting

**Date:**

<table>
<thead>
<tr>
<th>Enterprise name</th>
<th>Location</th>
<th>Description of improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise H</td>
<td>North-west corner</td>
<td>Add a skylight.</td>
</tr>
<tr>
<td>Enterprise I</td>
<td>Assembly table</td>
<td>Put reflectors on overhead lamps.</td>
</tr>
<tr>
<td></td>
<td>Whole building</td>
<td>Paint ceiling white.</td>
</tr>
<tr>
<td></td>
<td>West side</td>
<td>Put lowered shades on windows.</td>
</tr>
<tr>
<td></td>
<td>Inspection area</td>
<td>Put tables closer to window.</td>
</tr>
<tr>
<td></td>
<td>Inspection area</td>
<td>Provide contrasting background for table tops.</td>
</tr>
<tr>
<td>Enterprise J</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprise K</td>
<td>Inspection area</td>
<td>Add a skylight.</td>
</tr>
<tr>
<td></td>
<td>Assembly tables</td>
<td>Put shades on lamps.</td>
</tr>
<tr>
<td></td>
<td>Whole factory</td>
<td>Paint walls in a light colour.</td>
</tr>
<tr>
<td></td>
<td>Whole factory</td>
<td>Clean windows.</td>
</tr>
<tr>
<td>Enterprise L</td>
<td>Assembly area</td>
<td>Lower suspended lamps.</td>
</tr>
<tr>
<td></td>
<td>Assembly area</td>
<td>Put barriers to prevent visual distraction.</td>
</tr>
</tbody>
</table>

* Separate sheets should be prepared for each of the following subjects: materials storage and handling, work-stations, productive machine safety, control of hazardous substances, lighting, welfare facilities, premises, work organisation.
**Model completed handout**

**ACTION PLAN**

<table>
<thead>
<tr>
<th>Enterprise name</th>
<th>Location</th>
<th>Description of improvement</th>
<th>Approximate date of completion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enterprise M</strong></td>
<td>West wall</td>
<td>Add windows.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Assembly area</td>
<td>Clean lamps.</td>
<td></td>
</tr>
<tr>
<td><strong>Enterprise N</strong></td>
<td>Inspection area</td>
<td>Make the height of lamps adjustable.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Roof</td>
<td>Clean the skylight.</td>
<td></td>
</tr>
</tbody>
</table>

* Separate sheets should be prepared for each of the following subjects: materials storage and handling, work-stations, productive machine safety, control of hazardous substances, lighting, welfare facilities, premises, work organisation.
Guide – Implementation of improvements

The subject of implementation of improvements takes up the entire mid-course workshop. It is covered through a presentation followed by case studies.

Time must be allowed at the end of the mid-course workshop for a brief introduction to final presentations and perhaps a short discussion of concepts entered in the coming week’s schedule of group work. However, all but 20 minutes or so of the mid-course workshop are available for work on implementation of improvements.

Session design

This session is extremely important from the point of view of achieving a major goal of the programme: practical improvements at the enterprises. It is designed to fulfill a double task – to furnish the participants with a clear idea of how to design an implementation strategy and to provide them with possibilities for testing their abilities in developing and implementing improvements.

All the ideas included in this presentation guide on the strategy of implementation are essential and none of them should be omitted. However, there are many different ways of making the same points. An expert on management development or organizational development is likely to have his or her own approach to the management of change which covers the same ideas. Topics such as the unfreeze-change-refreeze model of organizational change are obviously relevant. In addition, techniques such as the formation of quality circles can be appropriate. However, the presenter should keep in mind that this presentation should be short and crisp, and that it should provide solid guidance on practical use of the “How to implement improvements” handbook.

There are two case studies foreseen in the session: a general one on development and implementation of improvements and a second one on the more potentially beneficial, but at the same time more difficult, issue of overcoming resistance to change and gaining workers’ support and co-operation.

The session is divided into five modules:

<table>
<thead>
<tr>
<th>Module</th>
<th>Purpose</th>
<th>Time available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>To arouse interest</td>
<td>2-3 minutes</td>
</tr>
<tr>
<td>Presentation on strategy of change</td>
<td>To provide guidance on designing a strategy of implementation</td>
<td>30-40 minutes</td>
</tr>
<tr>
<td>Case study on development of improvements</td>
<td>To improve skills in the development and implementation of improvements</td>
<td>50-60 minutes</td>
</tr>
<tr>
<td>Case study on gaining workers’ support</td>
<td>To improve skills in involving workers in the change process</td>
<td>30-45 minutes</td>
</tr>
<tr>
<td>Introduction to final presentations</td>
<td>To prepare for the final workshop</td>
<td>2-3 minutes</td>
</tr>
</tbody>
</table>

Introduction

(time: 2-3 minutes)

Give the title of the session. Stress that the knowledge and ideas learned during the course are useless unless they lead to practical action. Implementation is often a more difficult and complicated task than the identification of improvements.

Give some local examples of the serious problems that occur when putting into action relatively simple improvements. Illustrate that the implementation processes which involve changes in human behaviour are complex and difficult, even if they seem simple.

Explain the structure of the session and give a definite time schedule.

Presentation on strategy of change

(time: 30-40 minutes)

During this time five basic steps in the evaluation and implementation of the improvement should be discussed. To avoid boredom and rejection, try to encourage as much participation as possible. Show a transparency for each of the five steps.

(1) Develop a complete solution

To illustrate this point, select one of the improvements proposed by the groups in their Action Plans and ask the participants what other changes would be needed to make this improvement meet the objective specified. For example, take the idea of improved lighting. Perhaps this has been clarified by specifying that windows are to be added to provide natural light. An additional step which could be required is the rearrangement of machines to take advantage of the light. This still may not be effective unless accompanied by measures such as painting or regular cleaning of windows. Moreover, windows can generate glare and heat as well as light. This can mean that shutters are needed. Point out the need for careful planning and especially for consideration of unexpected effects or incomplete solutions. Sometimes a single work area can require action in all of the technical areas covered by the course. The participants should think about the checklist and about their Action Plans in this light.

(2) Make sure your ideas will work

Ask the participants to refer to their proposed improvements. What makes them believe that their ideas will work? Conduct a brainstorming exercise and write the answers on the blackboard or flipchart. Try to see that the following ideas are covered:

- observation of the same improvement in a similar enterprise;
- trying the idea out in a small way to see if it works;
- seeking advice from someone who has solved the same problem.

(3) Mobilise worker support

Point out that workers may resist changes or adapt poorly. Ask the participants what workers may fear when a change is made that affects their job. Write the answers on the board. They could include:

- possible loss of job;
- possible loss of pay (making work less skilled, loss of incentive pay);
- more difficult work;
- closer supervision.

Point out that these are very rational fears. To overcome fears and change habits is not easy. It can be very useful to:

- inform workers of the change and explain its rationale in advance;
- provide advance training;
- consult workers concerning possible unintended effects.

Even more effective is to involve workers from the very beginning by asking regularly for suggestions, discussing problems, etc. A surprise change will be resisted, but a change which is partly the idea of the workers themselves will be accepted and supported.

(4) Make improvements which will last

There are two ways to make changes which will last. One way is to change people's behaviour and habits. It is very dangerous to depend entirely on this method, though mobilising the support of workers helps. The second way is to build the change into equipment or facilities.

Ask the participants to consider the problem of housekeeping. What can be done to build good housekeeping into the plant instead of relying entirely on workers?

Write the answers on the blackboard or flipchart. They should include measures such as:
- providing bins;
- making the bins easy to empty by fitting them with castors or wheels;
- providing the necessary cleaning equipment;
- marking passageways and work areas;
- painting walls and machines to improve their appearance;
- repairing or eliminating sources of dust, oil, water, etc.

Point out that these actions make it much more likely that the improvements will last and have their intended effects.

(5) Manage change

Point out that, as managers, it is the participants' responsibility to make their changes a success. There are a certain number of steps that they should therefore take. These are to:

(show a transparency with these points)
- establish a firm deadline;
- assign the responsibility for implementation to someone;
- allocate adequate resources (time, materials, money);
- request regular reports on progress;
- check that the implemented improvement works well, is accepted by the workers and has no unexpected results;
- make sure that they and their supervisors show the way by following rules and by frequently praising workers who respond correctly to the improvement.

Emphasise the need for continuing improvement. Not everything can be done at once, but an enterprise which develops its capacity to solve problems will become dynamic and effective.

Ask the participants to suggest ways of setting up a permanent process of improvement in their enterprise. Write their responses on the blackboard or flipchart. Ideas can include:
- continuing to meet and work as a group;
- regular meetings with workers to generate new ideas and feedback;
- a checklist exercise involving workers;
- a suggestion scheme with rewards for the best ideas.

Case study on the development of improvements

(time: 50-60 minutes)

Refer to 'Case studies' in Chapter 4 of the Trainers' manual.

This exercise gives participants a chance jointly to develop practical solutions to complex real-life problems. The case study should be prepared beforehand with one of the participants. It is very advantageous to use the checklist factory so that the participants have all seen it. Select one well-defined but relatively complex problem requiring numerous different types of technical improvement. Give a short description of the problem, using illustrations such as slides and transparencies.

Ask the owner to present the case study. Invite questions and tell the participants to feel free to call on the owner for additional clarification during their group discussions.

After the presentation of the case study, the participants should work in groups for 30-40 minutes analysing the situation, developing solutions and designing a strategy of implementation. The handout on "How to implement improvements" should be distributed to help them to prepare their presentations. Each group then gives a five minute presentation, if possible with supporting materials such as transparencies or posters.

At the end of the session ask the owner to make some concluding remarks.

Case study on gaining the workers' support and co-operation

(time: 30-45 minutes)

This exercise is similar to the previous one, but the attention of the participants is focused on one critical issue: how to overcome resistance and gain the workers' support and co-operation.

The idea is to identify a problem, such as poor housekeeping or use of personal protective equipment, where failure is likely without worker support. The challenge for the participants is to devise ways of overcoming worker resistance.

The case should be based on the actual experience of one of the participants, as in the previous exercise. Group discussions of 20-30 minutes should be followed by five minute presentations.

After the group presentations, a wider discussion on worker motivation should be organised. It should be pointed out that, while rules and strict discipline can be effective when simple, easily verifiable measures are concerned (though even in these cases there may be problems), a very different approach is needed to get workers to co-operate on matters such as improvements in productivity and quality.

Depending on local conditions, it may be possible to start organising one of the activities on workers' involvement described in Chapter 4 at the mid-course workshop. This can be the subject of discussion at the end of the session. Enough time may be available to plan simple activities in co-operation with leading enterprises.

Introduction to final presentations

(time: 2-3 minutes)

At the end of the mid-course workshop, the handout on final presentations should be distributed and the main points emphasised by the trainers.
Handout – How to implement improvements

Don't waste your time and money implementing important improvements in a careless way. Even simple improvements often fail because of a lack of foresight and planning. This guide gives five simple rules which will help you to be successful. In addition, they will help you to make improvements happen frequently instead of stopping after three or four have been completed. Continuous improvement is the road to survival and growth.

Develop a complete solution.

Improvements sometimes don't work because they are incomplete. For example, if you want to use carts, you should take a look at the workshop floor. What additional changes may be necessary to make the improvement work well:

☐ in materials storage and handling?
☐ in work-station design?
☐ in productive machine safety?
☐ in the control of hazardous substances?
☐ in lighting?
☐ in welfare facilities?
☐ in premises?
☐ in work organisation?

Make sure your ideas will work.

Very often, even improvements which seem simple do not meet your expectations in practice. Anticipate design problems and make sure that all important factors have been taken into account. Ask yourself what makes you believe that this improvement will work well:

☐ because you have tried it out in a small way and it works well.
☐ because you have seen it work in the same conditions in another enterprise.
☐ because you have the advice of someone who has done the same thing.
☐ because ____________________________

If you are not sure that this idea for improvement will work best, what steps will you take to find out?

☐ by testing on a small scale.
☐ by talking to workers.
☐ by observing the results.
☐ by consulting experts.

Stimulate worker support.

Your programme of improvements will fulfill your expectations only with the goodwill and support of those who are directly affected by the changes. Your workers will be on your side if they fully understand that the changes are in their interests as well as yours.

Are you sure that the improvement will not cause any problems for your workers? Ask yourself:

Who will be directly affected by this change?

<table>
<thead>
<tr>
<th>Positively?</th>
<th>Negatively?</th>
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</thead>
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<td></td>
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</tbody>
</table>

What will you do to eliminate or reduce negative effects?

<p>| |</p>
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<th></th>
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</table>

In order for workers to support what you are doing, they need to understand your intentions. They may easily have the idea that the changes will affect their job security or pay, or make their work more difficult.

What techniques will you use to make sure that your workers are ready for the change and that they give you credit for what you are doing?

☐ Prior explanation and discussion.
☐ Involving workers in the design and introduction of the improvement.
☐ Showing how this innovation works in another shop or factory.
☐ Provision of additional training.
☐ Financial rewards.
Four innovations out of five eventually disappear because no specific actions were taken to make them last. There are two main strategies which help to counteract this:

- Change people's habits and behaviour.
- Build the change into equipment and facilities.

For most changes you will need to do both to be successful.

If you follow this method carefully and involve workers fully, you should make much progress in changing workers' habits and motivation. However, if the improvement is fully dependent on the behaviour of the worker (for example, use of protective goggles when sharpening tools on a grinder or preventing the cluttering of passageways), it is very likely that it will not last long. Old habits are very strong. To prevent this, we have to find ways to incorporate the change into machines and facilities, so that the equipment itself would reject the old routine (for example, install a permanent transparent screen on the grinder or provide storage racks and bins and clearly mark passageways).

Which steps will you take to make the change last by building it into your plant and equipment?

- Remove any tools or equipment which make it possible or easier to return to the old situation.
- Build the improvement into machines so that it cannot be removed.
- Design new or modified equipment so that it is easier to use and maintain in the new way.
- Provide barriers, painted lines, bins, or make other changes which make the improvement easily visible and natural to follow.

An important management responsibility is to make sure that improvement becomes a permanent part of the way work is done. Ask yourself:

- Do you receive a constant flow of ideas from your staff and workers?
- Is everyone in search of ways for more productive or higher quality work?

Each individual improvement is an opportunity to become a real manager of change. The following steps will help to make your company more dynamic. How many will you take?

- A suggestion scheme with rewards for the best ideas.
- Regular meetings at which workers are encouraged to explain their problems and give their ideas.
- An exercise in which groups of workers use the checklist and make proposals to you.
Handout – Final group presentations

The owner of a small or medium-sized enterprise is action-oriented. Survival and growth depend on the ability to put plans into practice quickly and effectively. The next stage of this course gives an opportunity to each participant and each work group to demonstrate what they have learned by taking action.

Preparations

Start preparing your group presentations as soon as possible.

The first step is to go through the Action Plans in the light of the new strategy for implementing improvements you have just used. This should permit participants to make final decisions about the improvements they plan to carry out (of course, new ideas can be added at any time).

A second step is to decide which improvements can be carried out before the final workshop. These will be the main part of each group’s final presentations. The groups should then discuss how the improvements can best be illustrated during the presentations (slides, posters, diagrams, overhead transparencies, etc.). The group co-ordinators will help to arrange for photography and other preparatory work. Remember that the most convincing illustrations are before-and-after slides.

The improvements which are planned but which will not be completed before the final workshop are also a part of the presentation. In some cases, it is a good idea to show slides or diagrams to illustrate these plans. There will need to be a final, up-to-date list of planned improvements for the presentation.

The group will need to decide who is to make the presentation. Sometimes groups prefer to ask more than one person to do this job.

The improvements should be carried out as soon as possible so that the work of preparing the presentation can be carried out properly. Each group should make a clear schedule of when its members will be ready for photography and when the presenter will receive the material necessary for the presentation. Both the group co-ordinator and the presenter should have a copy of this schedule.

Content and timing of the presentations

Each presentation should last 30 minutes. Don’t exceed this limit.

Some groups like to start by showing a list of their members, but this is optional. The group may also choose whether to identify enterprises when improvements are being shown.

The first part of each presentation is devoted to improvements which have already been carried out. Try to have at least a few improvements from the group for each technical theme. The Action Plans will help to check on this.

Each improvement should be described and, if possible, illustrated. In some cases this will take only a few seconds, but more complicated or interesting improvements should be described in more detail. It may be helpful to mention the source of the idea for the improvement (for example an idea from someone in the group, something seen on a visit, the checklist), and it is very important to provide information on the process of change, particularly worker involvement.

It is a good idea to organise the presentation of improvements according to technical themes, but sometimes linked improvements at one enterprise are easier to present together.

The second part of the presentation covers the improvements which are planned for the future. This can simply be a listing (on an overhead transparency) of all the planned improvements, but some of the more interesting ideas could be described in more detail. The source of the idea and the process of change can also be important in some cases.

Rehearsal

It is very important to finish preparations for the presentation in time for a full rehearsal. This helps to ensure that the slides are in order, that the transparencies are legible, and that the presenter has all the information he or she needs and knows the length of the presentation so that any necessary adjustments can be made. It is not necessary for the whole group to be present for the rehearsal, but the group co-ordinator should be there.
LOCAL SMALL-ENTERPRISE MANAGERS RAISE PRODUCTIVITY, IMPROVE WORKING CONDITIONS

A group of owners and managers of small and medium-sized companies have succeeded in raising productivity and at the same time improving working conditions in their factories as a result of a training course held here over the last three weeks.

The course, sponsored by [name of institution] involved [number] factory owners. They spent most of their time in action rather than classroom work. Based on an approach developed by the International Labour Office, the course demonstrated that many low-cost improvements could be introduced with benefits both for the enterprise and for the workers.

Last night at [place], the entrepreneurs took over from the training staff and presented the results of their activities. More than [number] improvements were introduced in the enterprises, while [number] further improvements are now being implemented.

Business owners and managers used slides and other visual aids to show what they had been able to accomplish.

After the presentations, a closing ceremony was held, which was addressed by [names].

[Summary of speeches with emphasis on any plans for future action.]
[Summary of types of improvements introduced in enterprises.]
[Statements from participants.]
[Statements from organisers.]
Model – Evaluation form

Instructions: Please give us your honest assessment of the course by answering the questions below. The results of this evaluation will help us to improve future courses.

A. Course objectives
(1) Were the programme objectives clear to you from the start?
☐ YES  ☐ NO
(2) Do you think the programme objectives were achieved?
☐ YES  ☐ NO

B. Course content
(3) Below is a list of topics taken up during the training programme. Please rank the importance of each subject area for your enterprise.

IMPORTANCE
Low Average High
☐ ☐ ☐ checklist exercise [name of trainer]
☐ ☐ ☐ materials storage and handling [name of trainer]
☐ ☐ ☐ work station design [name of trainer]
☐ ☐ ☐ productive machine safety [name of trainer]
☐ ☐ ☐ control of hazardous substances [name of trainer]
☐ ☐ ☐ lighting [name of trainer]
☐ ☐ ☐ welfare facilities [name of trainer]
☐ ☐ ☐ premises [name of trainer]
☐ ☐ ☐ work organisation [name of trainer]

(4) The training programme could have been better if there had been:
□ More Power/less
☐ ☐ technical sessions
☐ ☐ handouts
☐ ☐ plant visits
☐ ☐ group activities
☐ ☐ checklist applications
☐ ☐ individual action planning
☐ ☐ examples from other countries
☐ ☐ “learning-by-doing”

(5) Did you like the way your group was formed?
☐ YES  ☐ NO

(6) If not, what could have been a better way of forming groups?

C. Schedule, venue and staff support

PLEASE COMPLETE THE FOLLOWING SENTENCES

(7) The course schedule could have been improved by:

(8) The training site could have been improved by:

(9) The timing should be changed in the following way:

D. Course results

(10) Have you already introduced some improvements in your workplace as a result of what you learned during the training programme?
☐ YES  ☐ NO

What improvements were these?

What motivated you to make such improvements?

(11) Would you recommend this programme to your fellow entrepreneurs/business associates?
☐ YES  ☐ NO

If no, why not?

(12) Additional comments and suggestions:
## SUMMARY OF FOLLOW-UP RESULTS

<table>
<thead>
<tr>
<th>Technical area</th>
<th>Number of enterprises</th>
<th>Number of improvements in original Action Plan</th>
<th>Outcomes</th>
<th>Improvements added to Action Plan after course completion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Completed</td>
<td>In progress</td>
</tr>
<tr>
<td>Materials storage and handling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work-station design</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Productive machine safety</td>
<td></td>
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<tr>
<td>Control of hazardous substances</td>
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</tr>
<tr>
<td>Lighting</td>
<td></td>
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<tr>
<td>Welfare facilities</td>
<td></td>
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<tr>
<td>Premises</td>
<td></td>
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<tr>
<td>Work organisation</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Main constraints or problems noted:

__________________________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________
### Model completed worksheet

**SUMMARY OF FOLLOW-UP RESULTS**

<table>
<thead>
<tr>
<th>Technical area</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Completed</td>
<td>In progress</td>
</tr>
<tr>
<td>Materials storage and handling</td>
<td>20</td>
<td>24</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td>Work-station design</td>
<td>10</td>
<td>12</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Productive machine safety</td>
<td>7</td>
<td>8</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>Control of hazardous substances</td>
<td>8</td>
<td>10</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Lighting</td>
<td>16</td>
<td>23</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td>Welfare facilities</td>
<td>8</td>
<td>10</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Premises</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Work organisation</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>25</strong></td>
<td><strong>97</strong></td>
<td><strong>75 (77%)</strong></td>
<td><strong>6 (6%)</strong></td>
</tr>
</tbody>
</table>

Main constraints or problems noted:
1. Lack of co-operation of workers (e.g. cleaning and tidying) - 5 enterprises.
2. Financial constraints - 4 enterprises.
3. Design of improvement didn't work - 3 enterprises.
# Worksheet

## FOLLOW-UP RESULTS

<table>
<thead>
<tr>
<th>Enterprise name/planned improvement</th>
<th>Outcome *</th>
<th>Problems, constraints and other comments</th>
<th>Slide(s) No(s).</th>
</tr>
</thead>
</table>

* C = completed; IP = in progress; SP = still planned but no action taken; D = dropped; N = new idea since workshop. N should be followed by C, IP or D.
Model completed worksheet

FOLLOW-UP RESULTS


<table>
<thead>
<tr>
<th>Enterprise name/ planned improvement</th>
<th>Outcome*</th>
<th>Observations, problems and constraints</th>
<th>Slide(s) No(s.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Clear passageways and paint lines.</td>
<td>C</td>
<td>Passages clear.</td>
<td>1, 2</td>
</tr>
<tr>
<td>2. Provide storage racks.</td>
<td>C</td>
<td>Large amount of space saved.</td>
<td>3, 4</td>
</tr>
<tr>
<td>3. Provide safety goggles for grinder workers.</td>
<td>C</td>
<td>Provided, but not being used; workers find them uncomfortable.</td>
<td>5</td>
</tr>
<tr>
<td>4. Install skylight.</td>
<td>N, C</td>
<td>Owner very satisfied, but some heat problems observed.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprise B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Provide shelves.</td>
<td>SP</td>
<td>Delay due to cost.</td>
<td></td>
</tr>
<tr>
<td>6. Construct lunchroom</td>
<td>IP</td>
<td>Almost finished; workers are constructing it in spare time.</td>
<td>6</td>
</tr>
</tbody>
</table>

* C = completed; IP = in progress; SP = still planned but no action taken; D = dropped; N = new idea since workshop.
N should be followed by C, IP or D.
Other ILO publications

The first edition of Management consulting quickly became a basic reference work on the practice of consulting and was translated into Japanese, Spanish, French, Portuguese, Serbo-Croat, Indonesian and Chinese. Its great success, and the numerous changes that have occurred in consulting since its publication, have encouraged the ILO to prepare this second, substantially revised and enlarged edition. Managers in both private businesses and public organisations turn to consultants if they have problems, and rightly expect that a solution will be found to these problems. The consultant's job is therefore a highly responsible one and requires a professional approach. The aim of this book is to help management consultants, and all others who provide advice on management and business issues and practices or who make use of consulting services, to learn about the profession, the current methodology of consulting work, the management of consulting assignments and firms, and the training and development of consultants.
This second edition provides new material on consulting and change, consulting and culture, the structure and organisation of the consulting process, the strategy of consulting work, the management of consulting assignments and firms, and the training and development of consultants.

Management consulting seemed to us an instant classic ... It really is a first-class effort ... It is a must-read - clear, logical, well-organised and internally consistent ... " (Journal of Management Consulting, Amsterdam and New York)

"Not merely a textbook but a workbook and thought-generator as well: call it the consultant's bible ... throw away the '76 edition and get this one fast ... adds important new material, stands even taller than the pioneering first work ... definitely a must for client and practitioner alike!" (Consultants News, Fitzwilliam, New Hampshire, United States)

"Taking a fresh look at current practices, significant trends and new consulting opportunities, it is seen by the British Institute of Management as an excellent handbook on the subject". (Journal of European Industrial Training, Bradford, United Kingdom)

ISBN 92-2-105479-9 55 Swiss francs

The practice of entrepreneurship, by Geoffrey G. Meredith, Robert E. Nelson and Philip A. Nock
Practising managers, would-be entrepreneurs and management advisers interested in developing their entrepreneurial skills will find this book of great value. It is a clear, logical, well-organised and internally consistent text that is easy to read and understand. The opening chapter is definitive in respect of the personal traits and characteristics of entrepreneurs; the financial aspects of entrepreneurship which most commonly reflect business success; and the external aspects of entrepreneurship, including dealings with those people whose advice and help may be valuable. Anyone using this book can hardly fail to benefit from it.

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