



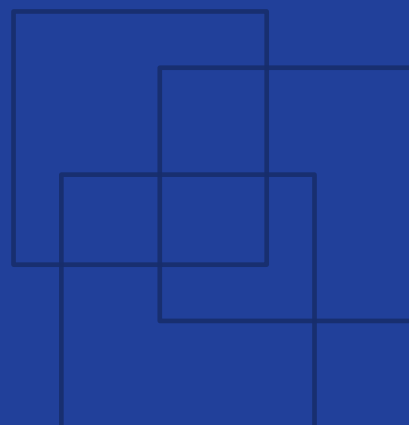
International
Labour
Organization

Organizing the cutting room

Cutting room operations



Factory
Improvement
Toolset



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Factory Improvement Toolset

The Factory Improvement Toolset (FIT) is an innovative self-facilitated, activity-based learning approach designed by the International Labour Organization (ILO) to create more decent and sustainable employment. FIT supports manufacturers in global supply chains to improve productivity, competitiveness and working conditions by upgrading production systems and factory practices.

FIT has been developed to be a sustainable, time- and cost-efficient option for supporting factories to enhance productivity through improved business practices and working conditions. FIT focuses on areas of production improvement and actions to be taken specific to each participating factory. It can be utilized as stand-alone learning tools or to complement other training programmes.

With each module lasting no more than 2.5 hours, FIT enables factories to train personnel, whilst minimizing interference with production realities. The easy-to-use methodology makes it possible to rapidly scale the implementation to reach a large cohort of trainees across multiple production facilities.

Working in small groups, participants review real-life situations and engage in discussions to determine improvements to be made in factory without an external trainer or specialist. This self-facilitated, activity-based and highly participatory learning approach positions participants as both student and teacher and makes the toolset self-tailored to the needs and interests of each group.

About this module

This FIT module on Organizing the cutting room is a training for garment manufacturers to improve cutting room operations. Participants will work on improving the cutting room's layout and workflow, keeping the room tidy, and training workers. This module takes about 2 hours to complete.

Upon completion of the training, participants should have:

- Understood the importance of organizing the cutting room for efficiency and safety.
- Learnt good practices in terms of layout, workflow, colour markings and tidiness.
- Discussed how, when and why to train workers in order for them to understand and maintain the organization system in the cutting room.

The **Factory Improvement Toolset** of the **International Labour Organization (ILO)** are developed and provided by the ILO's **Enterprises Department**.

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Guidelines for successfully using the training tool

Read out-loud

The FIT tool is designed for participants to take turns reading the instructions in the modules out loud to the group. At least one member of the group should be selected in the beginning of the session to take this responsibility.

Work as a group

Always work in groups of 5-7 during a FIT session. The programme will not be successful if participants work independently or do not collaborate with each other.

Be active

Encourage everyone in the group to actively contribute to the discussion. Ensure that no group member dominates the discussion or does not participate at all.

Monitor the time

Select one member of the group to monitor the time for each activity and remind the group when it is time to move to the next exercise.

Complete the action plan

Complete the action plan at the end of the session. This will help ensure that FIT results in improvements in the factory. Review the plan a while after the session to make sure that actions in the plan has been completed accordingly.

Icons

A set of icons is used throughout the modules to provide easy to recognize reference points for different tasks within each session and activity.



Read out loud

One member of the group should read out loud to the rest of group.



Knowledge link

Knowledge and skills are linked to other FIT learning resources and support.



Time allotted

Indicates how much time each sessions and activity should take.



Supplies needed

Indicates that supplies may be necessary to complete the session.



Begin step-by-step instructions

Indicates that the step-by-step instructions for an activity are beginning.



Think about it

Indicates additional information for the participants to think about.

Measuring your performance

Measuring operational efficiency is a key aspect of running a productive factory. The box(es) below guides you in understanding which measurement indicator(s) can be used to measure and evaluate the performance of your factory in relation to the topics covered by the FIT cutting room series.

Indicator 1	Re-cuts (%)
Definition	The proportion of fabric used for re-cuts for each order (the amount of fabric used for re-cuts compared to the total amount of fabric used for the order).
Purpose	To understand how much of the fabric was used for re-cuts, to better assess quality and begin to identify how to improve quality in the cutting room.
Calculation	$\left(\frac{\text{\# meters of fabric used for re-cuts}}{\text{total \# meters of fabric used for this order including re-cuts}} \right) \times 100\%$ <p>This should also be calculated separately for re-cuts due to cutting defects and re-cuts due to other defects.</p>
Frequency	Calculate for each cut order, then do a monthly average of all cut orders.
Responsible	Cutting room manager / Quality inspector

Indicator 2	Fabric utilization (%)
Definition	The proportion of total spread fabric that is actually used for garments. It is calculated for each cut (for each marker). The higher the most efficient.
Purpose	To understand how efficient your marker planning and cutting operations are, how much fabric gets wasted, and to begin to identify how to improve marker efficiency and reduce fabric waste.
Calculation	$\left(\frac{\text{Marker area used for garments in } sqm}{\text{total fabric area in } sqm} \right) \times 100\%$ <p>Marker area used for garments = Fabric (in sqm) actually used for garments Total fabric area = The total amount of fabric spread on the cutting table for a cut = Fabric length (mts) x Fabric width (mts)</p>
Frequency	Calculate for each marker, then do a monthly average of all markers.
Responsible	Cutting room manager / Senior marker maker



Session 1

Business case study

Goals

Preparing you for the type of discussions you will have with other group members throughout the learning module and understanding the benefits of being exposed to different perspectives.

Understanding better why keeping the cutting room organized is important in the factory.

Session 1

Overview



One member should read the full session out loud to the rest of group



15 minutes



Learning manual, pens, markers and poster paper

A business case study presents a real-life situation for learners to reflect on and discuss with other group members. By discussing the case, students learn from others' ideas and perspectives, and develop an understanding of the topic at hand within the workplace.



One group member reads the case study out loud



The whole group discusses the case study



Everyone develops a deeper understanding of the topic

Activities

Activity

1



15 minutes

Case study review and respond

The case study below presents a situation that could happen in real life.



Instructions:

- 1) As a group, listen to one member read the case study below while following along in your learning module.

Ritthy is a new cutting room manager at the HS garment factory. The cutting room is very disorganized. There is no separate storage area for defective or inspected bundles, so they easily get mixed up. This makes it hard for workers to know where to store what, and where to find what they need to do their job. It also makes cleaning difficult, and fabric sometimes has to be thrown away because of damage. Workers slip on bits of fabric lying around by the tables, injuring themselves. In addition, the fabric relaxation area is far from the entrance (where fabric is unloaded), so rolls must be carried all the way to the other side of the room.

To put some order and solve these problems, Ritthy re-organizes the room so that the relaxation area is between the unloading area and the spreading tables. Then, he uses yellow paint to mark the path that workers should take to walk from one area to the other, and instructs them to keep them clear. He sets up separate storage areas for fabric, cut parts, waste, defective bundles, tools, machines, etc., and sets up an office to store documents.

Thanks to these changes, the cutting room is much cleaner and tidier than before, and less fabric is wasted. Workers know where to store what, where to find what they need, and can now move around much faster. Accidents also happen less often.

- 2) Together, discuss Ritthy's situation by answering the three questions in table 1 on the next page.

Table 1. Questions about Ritthy's situation

1. What problems has Ritthy identified? What impact do these problems have on the factory and its workers?

2. What does Ritthy do or change in order to solve these problems?

3. What are the results of Ritthy's solutions for the factory and its workers?

This page has been intentionally left blank and can be used for note taking.



Session 2

Learning about the topic

Goals

Identifying ways to improve the layout and the workflow of your stores.

Learning to use colour markings to clearly separate areas and increase safety.

Identifying specific actions to keep the stores tidy and organized on a daily basis.

Discussing how and when to train workers in order to keep the cutting room organized at all times.

Session 2

Overview



One member should read the full session out loud to the rest of group



90 minutes



Learning manual, pens, and markers

This training module will help you improve the organization of your cutting room by running you through three important aspects: (1) layout, (2) tidiness, and (3) training. Organizing your cutting room efficiently will help you make your cutting operations more efficient, gain time, and protect your workers' health and safety. It will also help reduce unnecessary costs by avoiding damage and waste of fabric, which are very expensive.

Improving your
layout & workflow

Keeping the cutting
room **tidy**

Training workers

Throughout the activities, you will work on this topic by learning how to: (1) improve your cutting room's layout and workflow, (2) keep your cutting room clean, tidy, and organized, including by using colour markings, and (3) make sure your cutting room workers understand and maintain the room's organization.

What you will learn today is part of the **5S** model, a globally-recognized method to improve house-keeping leading to improved productivity in factories. The 5S are:

- **Sort:** Reduce waste, dispose of unnecessary items
- **Straighten:** Organise your locations, keep tools and facilities in order
- **Shine:** Clean and improve the look of the cutting room
- **Standardize:** Document and record work processes
- **Sustain:** Train workers to follow good 5S practices

Activities

Activity

2a



20 minutes

Improving your layout

In your factory, everything should have its own place. A well-organized **cutting room layout** will make your cutting operations more efficient, orderly and help you gain time. In this activity, you will practice improving the layout of a cutting room.



Instructions:

- 1) Have a participant read aloud the ten tips for organizing the cutting room in table 2 below.
- 2) Together, look at the cutting room layout in table 3, then discuss how it could be improved based on the 10 tips (table 2).
- 3) In pairs, draw the layout of your cutting room in table 4, then discuss what could be improved based on the 10 tips (table 2).

Table 2. Tips for organizing the cutting room

1. Organize the cutting room so that the fabric storage and relaxation area is by the entrance of the room (where it connects with the stores).
2. Have a special area for each cutting room operation (relaxation, spreading/cutting, numbering, bundling, inspection) and indicate each clearly.
3. Set up a numbering and bundling section so that parts can be removed from the cutting table as soon as possible after inspection.
4. Have a separate office area (a room to avoid dust accumulating) where the paperwork is done and records and computer kept tidily, with tables and chairs for cutting room administration staff.
5. Have a reserved (and demarcated) area for unloading received fabric.
6. Have a reserved and demarcated area for storing defective bundles.

7. Have a reserved and demarcated area for storing pattern boards.
8. Have a reserved and demarcated area for loading issued bundles.
9. Have a separate location to store moving equipment, tools (such as cutting machines, scissors, clamps etc.) and spare blades clearly marked out to avoid any possible accidents. Spare parts should be kept in the Stores.
10. Organize the cutting room so that the storage area for bundles to be issued is by the exit of the room (where it connects with the sewing room).

Table 3. The cutting room layout

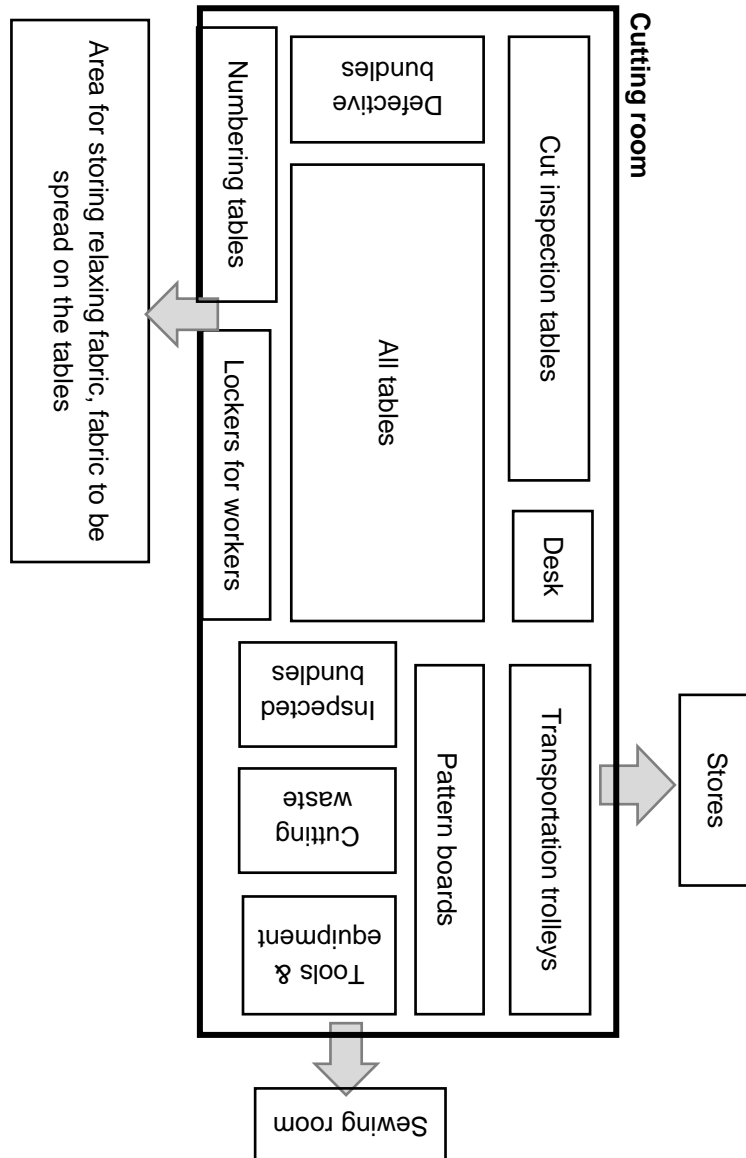


Table 4. Improving your layout

Draw the layout of your cutting room below.



To learn more about how to improve the efficiency and quality of your cutting operations, ask your facilitator for the “Cutting room series” modules!

Activity

2b



30 minutes

Improving the workflow

A **workflow** is a series of steps involved in a work process. A logical workflow helps workers move materials quickly and safely. In this activity, you will think about the workflow of your cutting room.



Instructions:

- 1) Together, look at the workflow illustrated with arrows on the layout plan below (Image 1). Then, discuss:
 - Is this workflow simple and logical?
 - Is this workflow safe and easy to understand for workers?
- 2) Together, discuss, then list or draw each step of your cutting room process from start to end in table 5. Then, have a participant read aloud the text box below table 5.
- 3) In pairs, come back to your drawing of your cutting room layout in table 4, and add arrows to indicate the workflow based on the steps listed table 5. Then, discuss: Is it quick, safe, and logical? Should you change anything to the layout?
- 4) Have a participant read aloud the explanations on colour marking in table 6. Then, together, look at the list of objects/areas in table 6, and discuss for each: Which colour would you use to mark them?

Image 1:

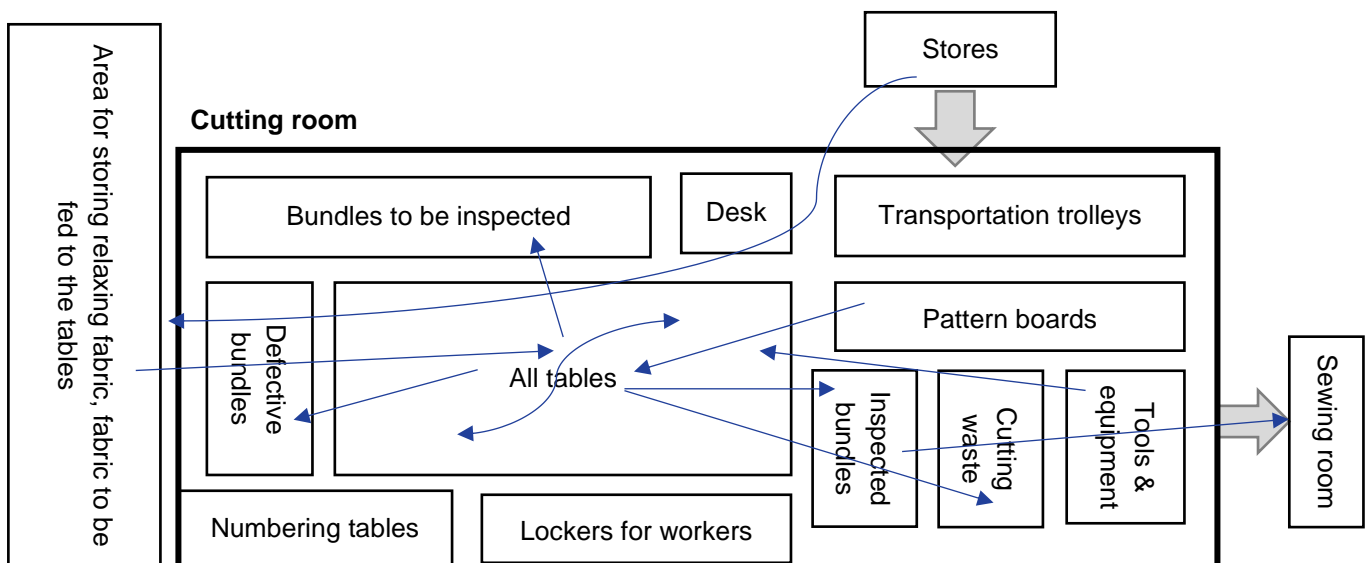


Table 5. Your cutting room process

List or draw all steps of your cutting room process below.



A good workflow should be **unidirectional**, meaning that all cutting room operations follow one continuous direction, from entrance to exit. This saves times, avoids damage to material, and is safer and easier for workers. Usually, a good layout ensures a good workflow.

Table 6. Colour markings

To help workers understand your workflow and respect it during their daily work, you can use **colour markings** on the floor. Floor colour markings can also help you make the room more organized and safer by indicating important areas and paths.



Yellow:
To indicate paths and areas (aisles, traffic lanes and work cells).

Orange:
Materials or products that need to be inspected.



Blue / Green:
Materials: Blue for work-in-progress, Green for finished goods.

Red: To indicate storage areas for scrap, defective materials, rework.



Area / path	Colour
1. Path for walking in between the cutting tables.	
2. Unloading / loading (issuing) areas.	
3. Fabric to be spread on the tables.	
4. Cutting waste.	
5. Defective bundles.	
6. Bundles to be issued.	
7. Bundles to be inspected.	
8. Cut parts stored on trolleys (awaiting bundling).	



Here are a few tips for using **colour markings**:

- Use as few colours as possible so it is easier to remember
- Train all workers on the meaning of colours
- If applicable, use the same colour codes in all factory departments

Activity

2c



20 minutes

Keeping the cutting room tidy

Keeping the cutting room **tidy and orderly** is important to (1) avoid damage to fabric, and (2) protect your workers' health and safety. In this activity, you will discuss how to keep the cutting room tidy.



Instructions:

- 1) Together, discuss: Would you say your cutting room is tidy and orderly? Why or why not?
- 2) Together, read through the list of actions to keep the cutting room tidy and orderly in table 7, and put a ✓ in the column on the right if you do these things in your factory.
- 3) Together, look at the four pictures in table 8, then discuss: What is right or wrong in each of them? Tip: use the good practices from table 7 to guide you!
- 4) Together, discuss:
 - How can keeping the cutting room tidy help avoid waste of materials, or damage to materials?
 - How can keeping the cutting room tidy help you protect your workers' health and safety?

Table 7. Keeping the cutting room tidy

Actions	✓
1. Do not allow workers to store personal belongings or bring food and drinks into the cutting room.	
2. Store fabric on trolleys or racks (never on the floor) to avoid it getting dirty or damaged.	
3. Keep unloading / loading areas clear of any materials except for the ones that have just been delivered or are about to be issued.	
4. Store fabric (to be spread on the tables), cut panels and bundles on multi-level trolleys in between the areas corresponding to different operations (for example, bundles in between the bundling tables and the inspection tables).	
5. Only fabric to be used for cutting should be stored in the cutting room. Excess fabric should be moved to the storeroom at once using a Return Note.	
6. Do not store anything on / under / around the tables to avoid trips and falls. If there is a storage shelf under the table, it should not protrude from the shelf, and everything should be labelled correctly (style, storage date, etc.).	
7. Place bins (in a steel frame at the same height of the cutting table and fitted with castor wheels) by each cutting table. After each cut, workers should push / throw all the cutting waste into the bin.	
8. Keep the cutting room clean and check regularly for pests, insects, and mold.	
9. Always keep alleys/paths clear of objects, boxes, carts and cutting waste to avoid blockages and accidents (e.g. trips and falls).	
10. Draw specific paths on the floor and train workers in using them to go from one area to the other.	
11. Keep documents (e.g. cutting plans) on shelves, in a separate room (office), to avoid damage or misplacement, and use a classification system for documents (e.g. by type and by date).	
12. Make sure that fabric/bundles stored in the storerooms are not exposed to direct sunlight in order to avoid them getting damaged or discoloured.	

Table 8. Good or bad practices?

Image A:



Image B:



Image C:



Image D:



Activity

2d



20 minutes

Training workers

To make sure that the cutting room remains tidy and organized, it is important to involve your staff in the process, and **train workers** in understanding and maintaining the organization of the cutting room. In this activity, you will discuss how to train workers in this.



Instructions:

- 1) Together, discuss the five questions in table 9.
- 2) Together, read through the list of things you can do to train workers, in table 10, and put a ✓ in the column on the right if you do these things in your factory.
- 3) If you have other training practices in your factory, share with the group, discuss, and add them to the list.

Table 9. Training workers

What?	What should workers be trained in (think about activities 2a~2d)?
Who?	Who should be trained? Everyone? Only some workers?
When?	When should training take place? When starting the job? Continuously? Others?
How?	Which training method do you usually use? Are there other suitable methods?
Why?	Why is it important to train workers in organizing and tidying practices?



To learn more about how to organize trainings for workers, ask for the “Training workers” module.

Table 10. Training workers

Actions	✓
1. Train workers in understanding the layout, workflow, colour codes, and tidying practices when they start the job. Re-train workers whenever changes are made.	
2. Keep simple boards on the wall to remind workers about important information such as the meaning of colour codes, with simple pictures and little text.	
3. Encourage workers to tell their manager whenever they see something that is not consistent with the organization system, or untidy.	
4. Train workers to always put back tools, machines, trolleys and others where they belong so as to maintain the organization system.	
5. Forbid smoking and eating, allocate a specific area for drinking water, and explain to the workers why you are doing so.	
6. Have workers place their belongings in lockers outside the cutting room, and explain to them why you are doing so.	
7. Encourage more experienced workers to train newer workers and make sure they respect the organization system.	
8. Make sure <u>all</u> cutting room workers are trained and involved in maintaining the system, even if they only work in one specific area of the cutting room.	
9. Put up posters on the wall to remind workers about safety guidelines (for example wearing mesh gloves or helmets, lifting safely, etc.).	
10. Conduct a weekly inspection of the cutting room to make sure everything is organized and tidy as according to the system.	



Session 3

Action items

Goals

Summarizing and revising the new knowledge gained.

Identifying concrete applications of the new knowledge that benefit your factory.

Session 3

Overview



One member should read the full session out loud to the rest of group



20 minutes



Learning manual, pens, and markers

Throughout this module, you gained new knowledge on how to organize your cutting room by improving its layout and workflow, keeping them tidy, and training workers to respect and implement the system.

Improving your
layout & workflow

Keeping the cutting
room **tidy**

Training workers

In this session, you will think of ways to apply your new knowledge to improve the organization of your cutting room by reviewing best practices and drafting your own action plan.

Activities

Activity

3a



5 minutes

Best practices checklist

In this activity, you will review best cutting room organization practices as a next step for evaluating your own and implementing improvements.



Instructions:

- 1) Together, look at the list of best practices in table 11, and put a ✓ in the column on the right if you use these practices in your factory.

Table 11. Organizing the cutting room

Best practices	✓
1. The cutting room layout is clearly separated into clearly marked areas corresponding to different cutting room functions / operations.	
2. The storeroom layout logically flows into the cutting room operation workflow.	
3. Everything in the cutting room (fabric, tables, etc.) has its own marked out place.	
4. Coloured markings are used to delineate specific working areas and pathways, and to keep workers safe by indicating dangers.	
5. The cutting room is kept tidy and orderly at all times. Inspections are carried out regularly to ensure that the system is maintained.	
6. Workers are trained to understand and maintain the organization of the cutting room.	

Activity

3b



15 minutes

Your action plan

In this activity, you will think of ways to apply your new knowledge to improve your cutting room organization by drafting your own action plan.



Instructions:

- 1) Together, fill in the action plan (table 12) on the next page. Identify a key problem that you want to solve and write down the solutions you identified while working on this module.

Table 12. Organizing the cutting room – Action Plan

Problem identified				
Solutions identified	Action(s) to be taken	Person responsible	By when?	How will improvements be measured?

Organizing the cutting room

The Factory Improvement Toolset (FIT) is an innovative self-facilitated, activity-based learning approach designed by the International Labour Organization (ILO) to create more decent and sustainable employment. FIT supports manufacturers in global supply chains to improve productivity, competitiveness and working conditions by upgrading production systems and factory practices.

FIT is being piloted in Asia under the regional Decent Work in the Garment Sector Supply Chains in Asia project funded by the Government of Sweden.

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