

Inter-governmental International Organization

Colombo Plan Staff College

for Human Resources development in Asia and the Pacific Region

TRAINING MANUAL ON GREENING TO THE TOTAL ON THE TOTAL ON



Preface

This training manual is a guiding document for a trainer in conducting training activities related to greening TVET. It is prepared with the contents collected from different documents and especially designed to encapsulate the needs of the TVET leaders, managers and faculties/instructors in practical and easy strategies to convert TVET in a sustainable and green direction.

The purpose of preparing this document is to provide a fundamental and step-by-step process for the guidance of the TVET trainers, administrators and academics, which are the target users of this manual.

This training manual recognizes the dynamic nature of the topic and thus, can be edited or changed as the authors see fit. It is designed to accommodate updates and trends on greening TVET that the trainers can apply to the present training context or to the scenario of their respective countries and localities.

This training manual does not guarantee the success of the training as it is up to the trainers and administrators to manage the activities during the training proper and derive the best outputs from their participants. However, it provides clear, concise and informative strategies that were adopted from CPSC's own experience on the subject as well as from my own knowledge and expertise. As CPSC successfully implemented greening TVET programs in the past, this is a testament of CPSC's continued commitment to provide a simple, applicable and innovative publication that is targeted to increase the knowledge of its trainees.

We hope that this manual will fulfill its intended purpose and may you be able to find inspiration and ideas for its use and dissemination.

Best of luck!

Ramhari Lamichhane, PhD Director General

Acknowledgements

This document is an output of CPSC's expertise in greening TVET initiatives and are a collection of various inputs, ideas and strategies derived from different organizations and individuals that have closely worked with CPSC and its stakeholders.

I would like to acknowledge therefore the contribution of the following people who made this training manual possible: Dr. Romulita Alto, Dr. Shyamal Majumdar (Director, UNESCO-UNEVOC), Prof. Dr. Margarita Pavlova, (Associate Professor, Education University of Hong Kong), all CPSC faculty and staff members particularly to Mr. Bryan Lazaro, (Executive Secretary to the Director General), Mr. Rae Emmanuel Echaveria (Acting Research, Publications and Information Officer), Mr. Felix Sibal (ICT Officer) and Ms. Aba Bernadine Lim (Multimedia Artist). Their dedication, expertise and commitment to the advocacies and services rendered by CPSC to its stakeholders in its network of sixteen member countries are duly recognized and appreciated.

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INTRODUCTION

The need for TVET to reinvent itself as a key implementor of sustainable development practices is now more evident than ever. With the advent of adverse environmental and social problems created by progress, sustainable initiatives such as greening TVET are appreciated and recognized as relevant and timely topics that will convince policy-makers and economic managers about the relevance of protecting the environment without sacrificing economic and social development.

The training manual for greening TVET is a book of instructions designed to improve the quality of a performed task that are related to conducting, managing and performing tasks and programs on greening TVET. It is a guiding document for the trainer/instructor to conduct training programs. It helps the trainer to aid the trainees in designing, developing, conducting and evaluating the training activities based on the objectives of the training programs. It helps to keeps both the planner and the trainer on right track throughout the training cycle while ensuring that the

CONTEXT OF THE TRAINING

desired outcomes of the training are achieved.

Greening TVET is one of the key areas where we have to develop human resources. Considering that human activities have a direct impact to adverse environmental effects such as global warming and climate change, there has to be a concrete

action from the TVET sector to mitigate its effects and ensure an environmentally-sustainable planet for future generations. In response, the United Nations has envisioned the Sustainable Development Goals (SDGs). These are a set of

seventeen development targets that will culminate by 2030.

Improvements in the current state of education and its recalibration to adopt more sustainable

approaches is seen as a key intervention to achieve these SDGs by 2030. Out of that seventeen goals, reforms in the education system has to contribute directly to the goal of "no poverty" (G1), "quality education" (G4), "gender equality" (G5), and "climate action" (G13).

Technical Vocational Education and Training (TVET), a major sector of education, has to also conform with the expectations of sustainable practices and is also expected to contribute significantly to the fulfillment of the SDGs. Therefore, TVET has to develop and promote sustainable TVET programs to be consistent with this direction

Trainers have the mandate to develop knowledge, skills and attitudes of human resources that will support this initiative of making TVET greener and more sustainable. With this present trend and with the active support of organizations, greening TVET courses are highly relevant in the present and will continue to be relevant in the coming years.

THE TRAINING PLAN

The training plan is necessary to outline the following information: (1) who will deliver the training?

(2) will the training happen? and (3) where will the participants convene to receive the structured component of the training?.

It includes training design (objectives,

components/ competencies, schedule, training modes/methods), training resources, and roles of trainer, trainees, organization and resource person. Some training plans also include assessment and certification arrangements. In addition, it should have a contingency plan that will outline all the possible scenarios.

DRAFTING THE TRAINING DESIGN

The training design is a key document of the training plan. The training design or instructional design is the process of creating a blueprint for the development of instruction. Whether the training is to be conducted in a classroom or delivered using an electronic format or using some combination of methods, the design process sets the stage for the development of a program that produces results. It is

a supporting document or blueprint to implement training plan. Therefore, based on training plan, detail training design should develop as a guide for trainer. Sample training design format for Greening TVET is as follows.

Name of Training	Greening TVET for Sustainable Development
	Promote Greening TVET concept
Objectives	Develop competencies on Greening TVET
	Contribute for sustainable development through TVET
Duration	One week (40 hrs)
Target Group	TVET Professionals: Teacher, curriculum developer, Master Trainer etc.
Group Size	20

Table 1: Sample Training design format

TRAINING APPROACH

Approaches of the training should be learner-centered. It is strongly suggested that the trainer should adapt a more participatory approach to positively engage their trainees.

The participatory approach involve the following strategies:

- 1. Sharing of knowledge and experience
- 2. Recognising and encompassing different perspectives
- 3. Working in teams on practical tasks
- 4. The use of visualisation and analytical tools, imagination and drama
- 5. An open-ended creative learning process
- 6. The development of shared understanding and jointly owned plans or other products
- 7. The capacity for reflection and self-assessment

ROLES OF THE TRAINER/RESOURCE PERSONS:

The trainer has to play following roles and responsibilities to make participants active and motivated. Some of the measures that the trainer can explore in doing so will be the following:

- 1. Provide practical knowledge and skills on Greening TVET
- 2. Make training environment more participatory

- 3. Expose the participants to green projects and training institute applying greening TVET approach.
- 4. Conduct a pre and post evaluation.
- 5. Conduct course evaluations.
- 6. Award certificates to participants who passed the training standard.
- 7. Prepare course report/end-of-program report.

Here are some of the role-playing skills that the trainer can adopt:

PRESENTATION	FACILITATION	ONE-TO-ONE
Structuring ideas	managing activities	coaching
Communicating ideas	 eliciting contributions 	☐ counseling
Using visual aids	learning	☐ mentoring
		advising
		assessing
CONSULTANCY	TROUBLE-SHOOT	DESIGN
CONSULTANCY	TROUBLE-SHOOT	DESIGN
CONSULTANCY integrating	TROUBLE-SHOOT insightful	DESIGN designing courses
integrating	insightful	designing courses
integrating diagnosing	insightful innovative	designing courses designing materials

Figure 1: Different Role Playing Skills and Activities

METHODS USED IN TRAINING

Some of the recommended methods in conducting this training on greening TVET are brainstorming, lecture, group project, individual project, exposure visit, energizers/icebreakers and others. However, implementors are free to device their own strategies depending on the objectives of the training.

BRAINSTORMING

It is a technique to get ideas and information from the group. During training, the trainer can start by asking the participants about their understanding of the basic concepts until concrete ideas are formed. A detailed discussion of the process is shown in Figure 2.

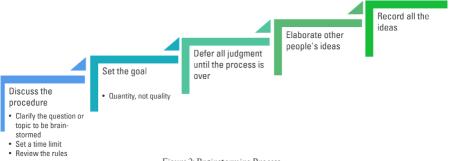


Figure 2: Brainstorming Process

LECTURE

A lecture is an oral presentation intended to present information or teach people about a particular subject. It is useful to apply for knowledge delivery part. In this training lectures are used to convey the following information to the participants: (1) background, (2) concepts, (3) elements, (4) examples, (5) critical information, (6) trends, (7) theories, and other relevant information on establishing a green TVFT action

GROUP PROJECT

The best way to explore innovation in learning is through group work or project. It is an effective method in imparting knowledge, skills and attitudes to a large number of participants. In order to maximize its benefits, the trainer can explore assigning a project task for two or more participants in one group. They can create an action plan, green project proposal development, assessment of green project or initiatives, or other possible interventions. As it is a group activity, the trainer has to ensure that the contents of the outputs will be applicable to all trainees.

INDIVIDUAL PROJECT

This method assigns any project, with the corresponding format, for individual submission.

EXPOSURE VISIT

In this method, the participants will visit TVET institutions, green project, enterprises and other organizations wthat already implemented or demonstrated greening practices in their operations. This is to inspire and motivate the participants to adapt these practices or develop their own initiatives by showing them the real scenario. Exposure visits enable participants from different regions to interact with and learn from each other, allowing them to view practical examples of successful integration of sustainable practices in greening TVET and green project. They are integral to sensitizing the students to the message of sustainable development. It is hoped that the participants will be able to replicate any successful models to the benefit of their own institutes and communities.

ICE BREAKERS

An ice breaker is an activity, game, or event that is used to physically motivate the participants to listen and participate by warming up the conversation or introduce stretching exercises that are simple but fun. Ice breakers are "any event that requires people to comfortably interact with each other and a trainer is an opportunity to use an ice breaker". (Heathfield, 2017).

The first type of ice breaker is just for fun. When participants know each other, laughter and conversation generated by the ice breaker, warm up the group. When participants are strangers, the ice is broken and participants learn something about each other.

The second type of ice breaker introduces or segues into the topic of the training session or meeting. It might also generate laughter and conversation, but its clear purpose is to open up the topic of the session. An example of this type of ice breaker is asking the group to identify the characteristics of their best team experience to introduce a session on team building. Here are additional formats that you can use.

The third type of ice breaker is an activity based on the purpose of the session. For example, a group of participants can demonstrate the worst or best case of greening TVET practices in an institute, organization or method. They can devise innovative ways to execute this demonstration such as scenario-building, acting and other entertaining ways..

OTHERS

Based on the context, trainer can use other methods such as presentation, experience sharing, videos, on line discussion etc.

THE PROGRAM BOOK FOR TRAINING

The program book is a printed guide of a plan of action aimed at accomplishing a clear training objective or objectives. It includes the details on what work is to be done, by whom, when, and what means or resources will be used, as well as other pertinent information pertaining to the conduct of the training. This guide is an adaptable resource to



support trainers and trainees as they explore and engage with the topic at hand in greening TVET to suit the learning needs and interest of the participants from teaching to supervisory in TVET. It is the responsibility of the trainer to ensure that the program book is prepared, layouted, distributed and monitored for possible feedbacks

It is customary to produce the program book at least one week before the training commences and is reproduced for the participants after the approval of the Director General.

COMPONENTS OF THE PROGRAM BOOK

INTRODUCTION

Training starts with the introduction of participants and resource persons. There are different ways of introduction. Considering the time and context, trainer can use best way to make more familiar and develop the rapport with each other.

RATIONALE

In developing the rationale, a clear explanation of the reason for the program's organization or a general statement about the program's relevance in addressing the challenges is recommended. Include diagrams, pictures and illustrations if necessary.

An example of rationale is indicated below:

"The natural environment of the world is under threat. Because of rapid urbanization and industrialization, different kinds of environmental maladies such as air pollution, water pollution, soil pollution and sound pollution exist in places populated by many people. As a result, the earth has been suffering from the effects of different climate maladies such as global warming. Considering this situation and to be consistent with the development goals adopted in the past, the United Nations (UN) has introduced sustainable development goals (SDGs) as another set of global goals addressing human development challenges beyond 2015. The 17 goals and key concerns are as follows:



Figure 3: UN's Sustainable Development Goals Source: United Nations, 2015

The education sector, in particular, is seen to have a significant impact in the fulfillment of the SDGs by instilling the awareness on environmental management and imparting the necessary knowledge, skills and attitudes towards the shift to a greener, environmentally-conscious society.

OBJECTIVES

The overall objective of the greening TVET training program is to maintain a society sensitive to the society's sustainable requirements through TVET professionals by empowering students on knowledge, skills, and attitudes. The specific objectives can be based on the training program in particular context. The expectation in

writing the objectives is to pattern it using the S-M-A-R-T criteria. The details of such is indicated below.

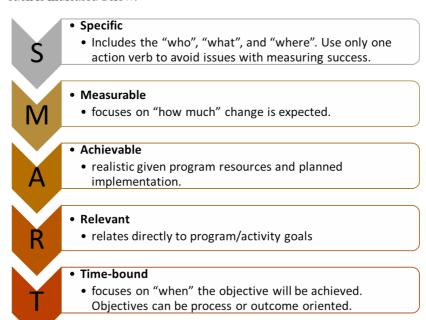


Figure 4: Diagram of SMART Objectives

TRAINING CONTENTS

Basically, a training activity should cover following contents.

CONCEPT, & IMPORTANCE

It has to cover basic concepts and importance of the greening TVET. Some of the concepts are given below.

GREEN JOBS

Green jobs, as defined by the International Labor Organization (2011) refer to "employment in any industry that contributes to preserving or restoring environmental quality in that sector and allowing for sustainable development. Specifically, but not exclusively, this includes jobs that help protect ecosystems and biodiversity; reduce energy, materials, and water consumption through high efficiency strategies; de-carbonize the economy; and minimize (or altogether avoid) generation of all forms of waste and pollution."

Lamichhane and Echaveria (2017) further elaborated on this concept by discussing that jobs encourage the fulfillment of the following activities: (1) the adaptation and mitigation of resources, (2) contribution in preserving environmental quality, (3) promotion in protecting ecosystems and biodiversity, (4) leadership in reducing energy, materials and water consumption, (5) de-carbonization of the economy and encouragement of the reduction of pollution and wastes.

On the other hand, green employment practices encourages the use energy-efficient materials in building materials and maintenance, Proper solid waste management, controlled water supply and reduction of CO2 and the use of green technology.

The development of "green jobs" through TVET is the ultimate vision of the organization, and through the development of initiatives and publications, we will be able to empower the people behind these policies.

GREEN SKILLS

The Green Skills Agreement (IVET, 2009) defines skills for sustainability as "Skills for sustainability, also known as green skills, are the technical skills, knowledge, values and attitudes needed in the workforce to develop and support sustainable social, economic and environmental outcomes in business, industry and the community."

GREENING TVET



Figure 5: The Five Pillars of Greening TVET

In connection to this initiative, a conference on the TVET education for sustainable development (CPSC, 2010) was held in Manila on November 2-3, 2010 organized by CPSC and its international partners IVETA and InWENt from Germany. This event paved the way for the recognition of TVET's need to pursue an environmentally-sound direction through the inclusion of economic, cultural and social considerations to drive a more sustainable human resource path in its contribution to the green economy. In conclusion, 210 delegates representing 39 countries across the world, called to implement the following green TVET practices through the following recommendations:

- 1. Recommend to integrate ESD in TVET as high in the international agenda
- 2. Develop policies and strategies to integrate ESD in TVET system
- 3. Mobilize a green TVET Framework to support socio-economic aspects in sustainable development
- 4. Promote capacity building to integrate ESD in TVET systems Figure 4: The Five Pillars of Greening TVET
- 5. Re-orient TVET curriculum and teacher education to integrate ESD at all levels of education
- 6. Increase public awareness through seminars, conferences and workshops to promote ESD as an advocacy
- 7. Strengthen networking and linkages to enhance multi-stakeholder partnership for evolving green TVET
- 8. Promote evidence-based research, monitoring and evaluation strategies for ESD in TVET
- 9. Develop clean and green technology programs to address the needs of the green economy
- 10. Prioritize capacity building of trainers to increase investments in education for the youth in creating a strong foundation of society for sustainable development.

IMPORTANCE OF GREENING TVET

The trainer should highlight the importance of greening TVET for the understanding of students, campuses, employers, industries and in the global community in general.

BEST PRACTICES IN TVET EDUCATION

The Greening TVET model was implemented in different aspects by different institutions. It can be in curriculum design, campus environment, use of sustainable materials in the training, sustainable ways of wastage management produced during training, greening community project and there might be 6 R approach (reduce, reuse, recycle, repair, renew and rethink) applied by different organizations. During training, the participants and trainees has to be exposed to some of these best practices through practical examples.

EMBEDDING TVET IN THE CURRICULUM

The curriculum should have a component of greening TVET and there are two recommended ways to do so. First is to develop greening skills training in each and every task. Second is to develop these units as a separate section in the curriculum design. The curriculum should be able to provide a substantial knowledge on greening policy, laws and strategic plans of government. Similarly, based on the occupation or skill of the trainees, greening skills have to be taught in every tasks, where applicable.

Other components should be covered during training are as follows.

- How to make green campus?
- What are the green technology?
- How can we use green technology in our campus and enterprises?
- How can we contribute to make greening community?
- What are the areas for green research?
- How can we conduct action green research during the TVET program?
- What are the core values and ethics needed for green culture?
- How can we develop green culture in the work place?

SCHEDULE OF ACTIVITIES

A schedule is a plan that gives a list of events or tasks and the times at which each one should happen or be done during training.

You can use a schedule to refer to the time or way something is planned to be done. For example, if something is completed on schedule, it is completed at the time planned.

An example is shown below. You might like to design your own schedule of activities depending on your creativity. The important thing is to mention the activities, names of the people responsible, time allocations, dates, topics and other additional information or note in the schedule that should be communicated to the participants.

Table 2: Sample Schedule of Activities

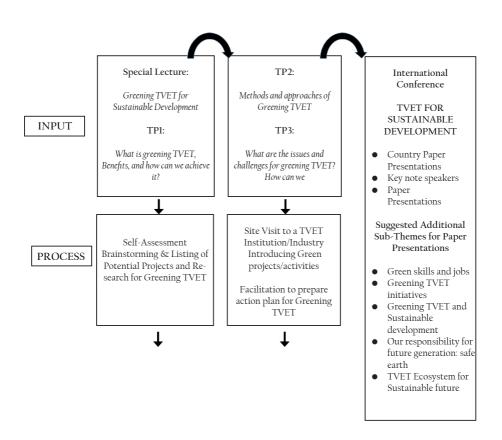
Day	0900-1030		1100-1230		1330-1500		1530-1700
1	Opening Program CPSC Video Program Orientation	T E	Special Lecture Greening TVET for Sustainable Development Ice Breakers Expert (Industry or professional)	L U N C H	TPI What is greening TVET, Benefits, and how can we achieve it? Ice Breakers during lecture Program Coordinator/ Resource Person	T E	Tasks Listing potential projects and Assessing one's preparedness for Greening TVET OnLine registration Participants
2	MILY & Presentation of outputs in tasks Participants	T E	TP2 Methods and approaches of Greening TVET Ice Breakers during lecture Resource Person	L U N C H	 Site visit to a TVET Institution or Industry implementing Green Projects Participants have to prepare key learnings from site visits Local Coordinator 		ng Green Projects to prepare key site visits
3	MILY & Presentation of site visits learnings	T E	TP 3 What are the issues and challenges for greening TVET? How can we overcome challenges?	L U N C H	Project work on preparing action plan for greening TVET in own institute. Resource Person and Participants Program Evaluation by Participants		

Day	0900-1030		1100-1230		1330-1500		1530-1700	
Conference/Workshop								
15	4.5 "TD ANCE ATING TWEET FOR CLICE AINTAIN EDEVEL ORMENT"							
4-3	4-5 "TRANSLATING TVET FOR SUSTAINABLE DEVELOPMENT" With paper presentation and panel discussion							
	Closing Program							

TRAINING PROGRAM FRAMEWORK

Basically, a framework is a broad overview, outline, or skeleton of interlinked items which supports a particular approach to a specific objective/s, and serves as a guide that can be modified as required by adding or deleting items.

It is a real or conceptual structure intended to serve as a support or guide for the building of something that expands the structure into something useful. Usually, the program framework is represented graphically using the Input-Process-Output model. An example is illustrated below:



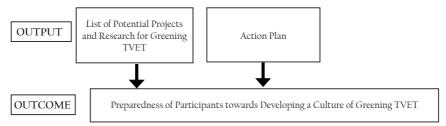


Figure 6: Sample Training Program Framework Using the Input-Process-Output Process

TRAINING PROGRAM MANAGEMENT

Training program management refers to the team of professionals that will handle the course. There will be program supervisors, program coordinator, local coordinator, international and national resource persons, and logistic staff to manage training effectively and efficiently. It is important to include their picture, name, designation/office and contact details (email addresses or office/business numbers). This is to provide a record in case the participants would seek additional clarification on the topics delivered or interested in establishing connections with them.

ANALYSIS OF THE TRAINING OBJECTIVES FOR RELEVANCE, ALIGNMENT, SEQUENCE AND EVALUATION

This is an exercise which is not a component of the program book but is essential to be done to make sure that the training program is well-prepared. Here are questions that will aid you in the analysis.

- 1. What sequence should the objectives be achieved? Usually, learning builds on learning. It may be useful to learn certain areas of knowledge and skills before learning new areas.
- 2. Will the objectives achieve the overall training goal(s)?
- 3. What are the best learning activities to achieve the objectives?
- 4. Do the methods match the participants' particular learning styles?
- 5. Do the methods stretch their styles, too? Are the methods readily accessible? Do the methods take advantage of real-life learning opportunities?
- 6. Do the activities include ongoing reflections about learning?
- 7. The learners will benefit from regularly taking time to stand back and inquire about what is going on in the training, what are they learning and what, if anything, should be changed.

- 8. What results, or evidence of learning, will be produced?
- 9. Who will verify that each of the learning objectives was reached? Ideally, the learning is evaluated by someone who has strong expertise in the areas of knowledge and skills required to achieve the training goals.
- 10. What costs will be associated with developing and implementing your plan?
- 11. Think about facilities, technologies, personnel, special expertise, etc. You may want to update the "Budget".
- 12. How will learners' manage time and stress during the learning?

Participants' evaluation can be done both pre and post program. It will help to measure the effectiveness of training programs.

COURSE/PROGRAM EVALUATION

Training Evaluation Form for Participants

Program evaluation is one of the key activities of the training. It is normally conducted after the training, before certificates of participation are handed out to the participants. It helps to redesign course, scheduling, apply appropriate training methodologies and assign competent resource persons. Training program evaluation can be done on training design, contents, methodologies, resource persons and logistics. A standard format for the evaluation has to be developed by the trainer and adopted by the management before implementation. The sample form is as follows.

Table 3: Sample Training Evaluation Form

Date.								
Title: (Instructions: Please indicate your level of agreement by ✓ with the statements listed below:)								
Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree			
1. The objectives of the training were clearly defined.								
2. Participation and interaction were encouraged								
3. The topics covered were relevant to me								
4. The content was sequentially organized and easy to follow								
5. The materials distributed were helpful								

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
6. The learning of this training will be useful to my work					
7. The training objectives were met					
8. The time allotted for the training was sufficient					
9. Training environment were comfortable.					
10. Training facilities and materials were adequate					
Resource Person 1:					
The trainer was knowledgeable on training topic					
2. The trainer has demonstrated accurate presentation skills					
3. The trainer was well prepared					
4. The trainer was humorous and joyful					
Resource Person 2:					
The trainer was knowledgeable on training topic					
2. The trainer has demonstrated accurate presentation skills					
3. The trainer was well prepared					
4. The trainer was humorous and joyful					

Overall Impressions:

- 1. What did you like most about this training?
- 2. What aspects of the training could be improved?
- 3. How do you hope to change your practice as a result of this training?
- 4. What additional trainings would you like to have in the future?
- 5. Would you like to give additional feedback to resource persons? Please give with their name.
- 6. Please share other comments or expand on previous responses:

Thank you for your feedback!

THE CLOSING PROGRAM

The closing program is a culminating activity designed to wrap up the training activities and give due recognition to those who have participated. It is expected that it is conducted in an organized and professional manner, as it is considered a semi-formal event. Special remarks can be given by chief guest and remarks followed by participants' representative and program coordinator. During the closing program, certificates will be distributed as a proof of training participation. Before handing the certificates, the trainer is recommended to ensure that the trainees have gained a substantial knowledge on greening TVET and are capable of applying these lessons in a practical manner.

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Shared Vision 2023

The Inter-governmental TVET Leader for Sustainable Development

Mission

Transforming TVET towards Sustainable Societies through Outcome-Based Quality Training, Accreditation, Research and Image Building for stakeholders



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