



**International Consultation on**  
***Education for Sustainable Development:  
TVET Teacher Education towards Sustainability***

**Final Report**

**19-24 August 2007**

**Chiang Mai, Thailand**

**UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training  
(Bonn)**

**Supported by**

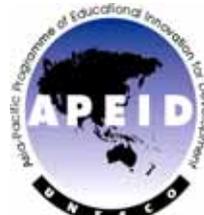
**the Office of the Vocational Education Commission (OVEC),  
Ministry of Education, Thailand**

**In Partnership with  
InWEnt (Bonn)**

**the UNESCO Asia-Pacific Programme of Educational Innovation for Development  
(APEID) (Bangkok)**

**and**

**the UNESCO Chair on Reorienting Teacher Education to Address Sustainability,  
York University, Toronto**



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### 1. INTRODUCTION

**The International Consultation on Education for Sustainable Development: TVET Teacher Education towards Sustainability** was convened in Chiang Mai from the 19<sup>th</sup> to the 24<sup>th</sup> of August, 2007. It was directed to identifying ways in which sustainability could be integrated into TVET teacher Education (TE) and capacity building programmes, and through them, into national TVET systems in general, beginning in the Asia-Pacific Region. It was hosted by the UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training (Bonn), supported by the Office of the Vocational Education Commission (OVEC) of the Ministry of Education in Thailand, and in partnership with InWent (Bonn), the UNESCO Asia-Pacific Programme of Educational Innovation for Development (APEID, Bangkok) and the UNESCO Chair on Reorienting Teacher Education to Address Sustainability (York University).

In 2002, the United National General Assembly declared 2005 through 2014 to be an international decade to focus on the role of education, public awareness and training in creating a more sustainable future: The United Nations Decade of Education for Sustainable Development (DESD). At the United Nations Conference on Environment and Development (UNCED), a 40-chapter action plan, called *Agenda 21*, was endorsed in order to implement the concept of sustainable development. Four main thrusts were identified for Education for Sustainable Development (ESD): 1) access to quality basic education; 2) reorienting existing education; 3) public awareness and understanding; and 4) training.

The critical role of TVET in sustainable development is long standing. For example, the recommendations of the UNESCO Second International Congress on TVET (Seoul, 1999) sought a new orientation of ‘TVET throughout life’ in order to meet the new demands of achieving the objectives of a culture of peace, environmentally sound sustainable development, social cohesion and international citizenship of the world.’ As part of the ongoing process of TVET for achieving sustainable development, the International experts meeting in Bonn (2004) formally adopted the Bonn Declaration, which argued that:

... since education is considered the key to effective development strategies, TVET must be the master key that can alleviate poverty, promote peace, conserve the environment, improve the quality of life for all and help achieve sustainable development.

Within that framework, and the need to strengthen the contribution of TVET to sustainable development, there arises the imperative to design, adapt, implement, and evaluate approaches to pre-service and in-service TVET teacher education to address sustainability. Thus the international

consultation served as a forum to identify and explore the role that TVET teacher education does and could play in the development of sustainable futures through ESD, identifying interventions and strategies for enhancing that role.

The focus of the consultation was on the situation, needs and initiatives in developing countries of the Asia-Pacific region, both as exemplars of what may be expected and done elsewhere in the world and as a region which presents a wide array of cultural contexts, issues and initiatives in the task of achieving sustainability in and through TVET teacher education.

Consistent with the priority thrusts of ESD identified by the United Nations, the focus of the consultation was also on TVET that is directed towards youth and to meeting more basic TVET learning needs.

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## **2. OBJECTIVES and INTENDED OUTCOMES**

The objectives and intended outcomes of the consultation meeting were:

1. To map the scope and contribution of TVET TE to ESD and to develop a framework, grounded in illustrative case studies, identifying that scope and contribution.
  2. To identify and articulate the issues arising for TVET TE in strengthening the contribution of TVET to ESD.
  3. To identify, conceptualize and articulate approaches to strengthening the contribution of TVET TE to ESD.
  4. To develop an agenda and action plans of research, programme profiling and development for strengthening the contribution of TEVT TE to ESD.
  5. To advise the UNESCO-UNEVOC International Centre in Bonn on how the Centre and its Network may contribute to that agenda and the action plans.
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## **3. PARTICIPATION**

Participation in the consultation was by invitation and included: (1) expert representation from each of the five host and partner organizations (UNESCO-UNEVOC International Centre, OVEC, InWent, APEID, the UNESCO Chair on RTEAS); (2) 22 TVET teacher education specialists from the eight selected countries in the Asia-Pacific region (China, Lao P.D.R., Myanmar, Nepal, Pakistan, Sri Lanka, Thailand, Vietnam); (3) seven international experts in ESD and TVET (from Australia, Brunei Darussalam, Cyprus, Germany, India, Latvia, the Netherlands); and two expert resource persons (one with expertise in ESD, the other with expertise in TVET).<sup>1</sup>

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## **4. THE PROGRAMME**

The five-day programme was structured to bring together the diversity of inputs necessary for an informed and focused understanding and tackling of the task at hand, and to provide opportunities to work on those inputs in addressing the objectives of the consultation.

Inputs comprised:

- (1) the background paper to the consultation;
- (2) the six opening and keynote addresses from the consultation hosts, partners and expert consultants (UNESCO-UNEVOC International Centre, OVEC, InWent, APEID, Charles Hopkins, and Richard Bagnall), mapping the task and articulating the context, the imperatives, key issues, and challenges involved;

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<sup>1</sup> For a full list of participants, please refer to the Annex I.

- (3) eight country case studies – each both presented in a plenary session and distributed as a paper – of TVET teacher education towards sustainability in selected countries in the Asia-Pacific region (Thailand, Lao P.D.R., Sri Lanka, Myanmar, China, Pakistan, Vietnam, and Nepal);
- (4) seven addresses from ESD and TVET specialists, presenting examples of programmes initiatives from different disciplinary, geographic, and role perspectives;
- (5) a field trip to selected local examples of sustainable vocational practice; and
- (6) the experience, knowledge, and expertise of each of the 37 consultation participants.

The generative work on those inputs was undertaken firstly in three working groups, each focusing on a different aspect of the task: WG1 focusing on how TVET and ESD could make education more useful to learners and communities; WG2 on TVET and ESD teacher education reform; and WG3 on Decent work – workplace and workforce reform. The outputs from those working groups were then further considered and refined in plenary sessions and in subsequent deliberation and comment on the draft final report circulated to all consultation participants.

In overview, the substantive five-day programme was structured as follows:

#### Opening Address

Mr Chana Kasipar (Chairman, OVEC)

*TVET teacher education towards sustainability: The case for Thailand.*

#### Keynote Addresses

- Rupert Maclean (Director, UNESCO-UNEVOC International Centre)  
*Why is vocational education and training so important?*
- Charles Hopkins (UNESCO Chair on RTEAS)  
*The role of education in creating a more sustainable future.*
- Derek Elias (APEID)  
*Education for sustainable development in the Asia-Pacific region.*
- Harry Stolte (InWEnt)  
*General methodological approaches to introduce innovations in TVET teacher education towards ESD.*
- Richard Bagnall (Hong Kong Institute of Education)  
*Mapping and enhancing the contribution of TVET teacher education to ESD.*

#### Country Case Studies

- Thailand (Siripan Choomnoom, Deputy Secretary General, OVEC).
- Lao P.D.R. (Nivone Mounkhounsavath, Vocational Education Development Centre).
- Sri Lanka (Dayantha Wijeyesekera, National Education Commission; and Peter Collingro Project for Rehabilitation and Modernization of Vocational Training Institutions).
- Myanmar (Htun Kyaw Myint, Department of Technical and Vocational Education).
- China (He Zhen, Beijing Normal University; Peijun Liu, Ministry of Education; Huang Chunlin, Zhenjiang Technology Institute of Economy).
- Pakistan (Abdul Majid, National Institute of Science and Technical Education).
- Vietnam (Phan Minh Hien, General Directorate for Vocational Training; Bach Hung Truong, GTZ project ‘Promotion of TVET in Vietnam’; and Nguyen Dinh Han, University of Technical Education Hung Yen).
- Nepal (Bhawani Shankar Subedi, Training Institute for Technical Instruction).

### ESD and TVET TE Presentations

- Milagros Campos Valles (SEAMEO-VOCTECH)  
*Sustainable development through capability building, networking and knowledge sharing in TVET.*
- Frank Bünning (University of Magdeburg)  
*TVET teacher education in Germany and potentials to integrate SD.*
- Joachim Wagner (InWEnt)  
*Decent work and TVET: A perspective by InWEnt on ILO's global DW agenda and its inter-linkage with TVET.*
- Kiran B. Chhokar (Centre for Excellence in Environmental Education (CCE, Delhi)  
*Technical and vocational education in India: CEE's initiative.*
- Ilga Salite (Daugavpils University)  
*Development of Institute of Sustainable Education in collaboration with UNESCO.*
- Peter Woods (Department of the Environment and Water Resources, Australian Government)  
*Education for sustainable development and TVET in Australia.*
- Rob de Vrind (Koning Willem I College)  
*Sustainable vocational education training (VET) in the Netherlands.*
- Björn Frostell (KTH, Sweden)  
*SCEE – Strengthening of capacity in environmental education (Power-point presentation prepared for and tabled at the consultation, but not delivered, due to travel disruption).*

### Working Groups

- WG1 (Co-chairs: Kiarin Chhokar and Peter Woods) – How TVET and ESD could make education more useful to learners and communities.
- WG2 (Co-chairs: Harry Stolte and Milagros Campos Valles ) – TVET and ESD teacher education reform.
- WG3 (Co-chairs: Joachim Wagner and Frank Bünning) – Decent work – workplace and workforce reform.

### Plenary Reporting from Working Groups

Chaired by Charles Hopkins.

### Plenary Discussion of Actions and Recommendations

C0-chaired by Derek Elias and Charles Hopkins.

Activities included:

1. each participant making and retaining for future use and evaluation a list of the *personal commitments* that he or she would now follow through in advancing SD in and through TVET and TVET TE;
2. concluding remarks by the expert resource persons on the way forward from this consultation; and
3. suggestions for further action and for resourcing priorities for action.

## **5. CONSULTATION OUTCOMES – ISSUES**

The major issues identified as requiring attention in achieving sustainable vocational practice in and through TVET teacher education are the following.

### **1. Sectoral differentiation, isolation, de-contextualization and ossification, and the devaluing of vocational practice**

- The general lack of cooperation in TVET and TVET TE across sectoral boundaries between and among NGOs, government, industry providers, and international agencies.
- Barriers of all sorts between and among formal and non-formal education and informal learning.
- The separation of TVET from general education
- The division between theory and practice in TVET and TVET TE.
- The general lack of contextual responsiveness in both TVET and TVET TE – their isolation from work and employment contexts.
- Educational approaches generated in the more developed countries being doubtfully appropriate for transfer to less developed countries and systems, given their association with unsustainable work practices.
- The status difference, lack of integration and differential resourcing of TVET and general education.
  - The lack of interactivity between TVET and ESD cultures and sectors.
  - The common failure to maintain TVET and TVET TE curricular currency, through responsiveness to changes in workplace practices.
  - The limited nature and impact of TVET itself.
  - The limited extent and utility of interactivity or networking among TVET TE practitioners.
  - The limited acceptance of TVET and TVET TE as fields of professional practice.

### **2. A preoccupation with formal education**

- The overwhelming focus of attention in TVET and TVET TE on more formal and higher-level vocational practices and qualifications.
- A tendency to focus on initial TVET TE, at the expense of further professional development.

### **3. Heterogeneity**

- The diversity of national and provincial systems, models and standards of TVET and TVET TE provision, assessment, recognition, and accreditation.

### **4. Unresponsive curricula and the lack of knowledge of needs, possibilities and options**

- The positional constraints on TVET practitioners, limiting their capacity to make effective decisions for change.
- The lack of guidelines for SD in TVET and TVET TE.
- The traditional delivery, supply-side culture of TVET and TVET TE.
- The problem of traditional content- or activity-based approaches to TVET and TVET TE and of poorly conceptualized or implemented outcomes-based approaches.
- The conservatizing impact of the post-vocational nature of much TVET and TVET TE practice.

## 5. Inequity of access to quality vocational education and outcomes

- Inequity of access to quality TVET and TVET TE, with or without SD and to quality work outcomes from such education.
  - Inequity of access to decent work.
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## 6. CONSULTATION OUTCOMES – APPROACHES AND EXAMPLES

A wide range of successful approaches to enhancing sustainability in and through TVET TE were identified. They evidenced a number of qualities, especially the following, which were common, in different combinations and to different degrees, across several approaches in each case –

1. The development of inter-agency collaborations, especially here between TVET TE providers and international agencies (UNESCO, ILO, etc.) and regional organizations (e.g., APEID and SEAMEO-VOCTECH).
2. The adoption of a service orientation – to individuals, economies and governments – in TVET.
3. The development of clear priorities for action.
4. The research and development, and dissemination, of examples of good practice.
5. Good planning, involving the setting of both short-term and longer-term goals.
6. Contextual sensitivity and responsiveness.
7. Analysis of what others have done elsewhere.
8. A pragmatic approach to working around regulations and other restraints – focusing attention on what can be done most readily.
9. Adopting a *workplace* orientation.
10. Being clear about and deliberate in the type(s) of strategies that one is using (e.g., cascading, networking, self-development, or progressive searching).

Those approaches are exemplified in different ways in the following programmes, identified in the cases described in the course of the consultation (introduced here in the CD accompanying this report):

1. The ‘sufficiency economy’ project of Thailand – as an example of an integrated system for achieving SD through TVET and lower-level TVET TE.
2. The ‘National Demonstration Centre for TVET TE in China’ – as an example of an approach to dissemination.
3. The sustainable VET modules developed in the Netherlands – as examples of creative approaches to engaging youth learners in SD issues.
4. The TVET curriculum revisions undertaken in Pakistan – as an example of revising TVET curricula to incorporate SD.
5. The Australian Government work to embed sustainability within TVET industry training packages – through the National Centre for Sustainability at Swinburne University.
6. The dual education system in Germany – as an approach to creating greater equality in status and outcomes between TVET and general education.
7. The ‘Secondary Vocational School Teacher Quality Enhancement Plan’ of China – as an example of enhancing the quality of TVET practice on a national scale.
8. The National Institute of Science and Technology Education (NISTE) Entrepreneurship Resource Centre (NERC) in Pakistan – as an example of SD in entrepreneurship programmes.

9. The ILO approach to developing its Decent Work agenda – as an example of programme development involving strongly consultative links with other international agencies and implementation partners.
10. The ‘Southeast Asian Vocational and Technical Research Network (SEAVERN)’ developed through SEAMEO-VOCTECH – as an example of regional networking with the potential to develop SD practice.
11. The Centre for Excellence in Environmental Education, in India – as an example of a large, multi-faceted programme to introduce environmental education across different education sectors – including TVET.
12. The Institute of Sustainable Education at Daugavpils University – as an example of how a higher education institution may develop a strong ESD profile in its teacher education.
13. The Thai-Swedish International Cooperative Project, ‘SCEE – Strengthening of Capacity in Environmental Education’ – as an example of a cross-country inter-governmental collaborative project in ESD.
14. UNESCO Bangkok’s programme of inter-agency consultations on TVET issues – as an example of how different stake-holders may be brought together to contribute to a common development agenda in TVET reform.

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## 7. CONSULTATION OUTCOMES – A CONCEPTUAL FRAMEWORK FOR ACTION

The contribution of TVET teacher education to SD is seen as occurring in its impact on three *fields of workplace practice*: (1) vocational practice; (2) TVET; and (3) TVET teacher education itself. The success of interventions to enhance the sustainability of vocational or work practice depend on the quality of the *workplace knowledge* that we have of each of these fields.

The success of each of these fields of practice as sites of sustainable development may be further understood through a number of *categorical conditions of sustainable workplace practice*: conditions that educational theory, research and experience have indicated are necessary for successful practice (including sustainable practice) in field. The conditions for each of the workplace fields may be understood as the following:

1. For the field of vocational practice – working sustainably through being:
  - supported by communities of practice;
  - responsive to cultural contexts;
  - respected and respectful;
  - committed;
  - informed; and
  - skilled.
2. For the field of TVET:
  - practicing sustainable vocational education (through the six conditions noted immediately above);
  - modeling sustainable vocational and TVET practice; and
  - teaching sustainable vocational practice.
3. For the field of TVET TE:

- practicing sustainable vocational education (through the six conditions noted in the first field above);
- modeling sustainable TVET; and
- teaching sustainable vocational and TVET practice.

The generic field of vocational practice (or work) is commonly recognized as involving three different working arrangements: (1) being self-employed (or in cooperative enterprise); (2) employing others (i.e., as employers); and (3) being employed by others (i.e., as employees). These tend to relate to TVET TE through different linkages, as follows:

1. The self-employed relating to TVET TE through NGOs, government agencies concerned with rural development, small business enterprises, social service agencies, small enterprise funding bodies and banks, local and district and village councils, leaders and representatives.
2. Employers relating to TVET TE through individual organizations, federations of industry and commerce, and industry or business sector bodies.
3. Employees relating to TVET TE through unions and other worker organizations.

The field of TVET is commonly recognized as including three different types of vocational learning situations: (1) formal education; (2) non-formal education; and (3) informal learning. Each of these types of learning situations interacts differently with both the general field of work or vocational practice and that of TVET TE. For example, TVET impacts on the field of self-employment largely through non-formal education, and formal TVET TE impacts largely only on TVET practice in the formal sector. Through tracing such relationships, areas of priority for enhancing sustainability in work through TVET TE were identified in this consultation.

Through those three fields of workplace practice, it is clear that TVET TE potentially impacts on *all* work situations – hence the importance of the subject of this consultation meeting.

It is also recognized that *general* education impacts significantly on the field of work, and increasingly so with the current vocationalization of general education. Programmes to enhance the impact of TVET TE on sustainable workplace practice must also respond to that relationship.

Of major importance to the work of the partner organizations in this consultation are what may be regarded as *international development imperatives* – agendas for action developed through international development agencies such as the United Nations, UNESCO and the ILO. Important such agendas for the focus of this consultation are: the Education for All (EFA) goals, the Millennium Development Goals (MDGs), Principles of Sustainable Development (PSDs), the concept of Decent Work (DW), and that of Lifelong Learning (LL).

Linked with these international development agendas are *international agencies concerned with working conditions*, including the ILO, UNESCO-UNEVOC, and UNEP.

From an TVET TE towards ESD perspective, the key relationships between these various components, and the major priorities identified in Section Eight below, are illustrated in the figure here included as ANNEX II

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## 8. CONSULTATION OUTCOMES – PRIORITIES FOR ACTION

From the issues identified in Section Five above, the following priorities for action in achieving sustainable vocational practice in and through TVET teacher education were identified.

## **1. Developing connections, networks and partnerships, and contextualizing, revitalizing and revaluing vocational practice**

- Developing effective connections, networks, reciprocal links and partnerships between and among:
  - TVET TE and workplace contexts;
  - TVET TE and international agencies concerned with work;
  - TVET TE and TVET in formal and non-formal education, and informal learning; and
  - Different sectors of TVET and TVET TE – NGOs, government, and industry providers.
- Developing a workplace orientation in TVET and TVET TE.
- The need for TVET and TVET TE practitioners to understand workplace cultures and the world of work.
- The need for global networking to share best and innovative practice.
- Attention to achieving sustainable work practices through the vocationalization of general education.

## **2. Refocusing on basic and non-formal education**

- The need to develop sustainable workplace practices by re-focusing attention in TVET and TVET TE on the non-formal sector, on learning in the workplace, especially in small-to-medium-sized enterprises (SMEs), and on lower levels of vocational practice. It is in this sector that the influence of TVET TE is most limited, but where the need and potential impact is greatest.
- Focusing also on the interconnections between non-formal education and informal learning, to optimize the synergies for enhancing sustainability in vocational practice.
- The need for a lifelong learning focus in TVET and TVET TE.

## **3. Developing comparable standards**

- The need to develop comparable qualifications frameworks across countries and across the TVET and general education sectors.

## **4. Researching, developing, piloting and disseminating innovative practice and guidelines**

- The need to raise TVET and TVET TE practitioners' awareness of the need for sustainable teaching and learning practice.
- The need to review and revise TVET and TVET TE curricula from a sustainability perspective.
- The need for capacity-building programmes to empower TVET practitioners, to give them the freedom to act for SD.
- The need to develop international guidelines and standards for SD in and through TVET and TVET TE.
- The need to develop a service-oriented, demand-driven culture in TVET and TVET TE.
- The need for research, experimentation and dissemination of innovative and contextually responsive approaches to TVET and TVET TE towards SD and the roles of practitioners.
- The need for more research and development into the qualities of TVET and TVET TE practice and their implications for integrating ESD and impacting on SD in work.
- The need for the high quality models of outcomes-based systems of TVET and TVET TE for achieving SD.

## 5. Enhancing equity of access to quality TVET engagements and outcomes

- The need to focus attention on achieving equitable access to TVET and TVET TE and to good quality work outcomes of such engagement.
  - The need to achieve equity of access to decent work.
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## 9. CONSULTATION OUTCOMES – RECOMMENDATIONS FOR ACTION

From the priorities noted in Section Eight above, the following recommendations for action on the part of the consultation partners, and the participants wherever appropriate, were drawn from the consultation deliberations.

### 1. Developing connections, networks and partnerships, and contextualizing, revitalizing and revaluing vocational practice

- 1.1. Convene a regional (Asia-Pacific) planning meeting – involving if possible the UNESCO-UNEVOC International Centre, APEID, InWEnt, the ILO, and regional experts – to develop plans for advancing the networking and partnership imperatives identified in 8.1 above.
- 1.2. Facilitate and support research and development into approaches to addressing those networking and partnership imperatives.
- 1.3. Consider the proposal from InWEnt for a Global TVET Academy for Sustainable Development.
- 1.4. Develop and carry forward a proposal for a book in the Springer TVET series on the topic of TVET teacher education and sustainable workplace practice in Asia and the Pacific – incorporating but extending key work presented at the consultation.
- 1.5. Report and advocate action on the recommendations from this consultation as widely as possible.

### 2. Refocusing on basic and non-formal education

- 2.1. Use the regional planning meeting recommended in 9.1.1 above to address the imperatives noted in 8.2 above.
- 2.2. Give priority in TVET programmes to a focus on the *non-formal* sector of TVET, in both:
  - work in *employment* in small-to-medium-sized enterprises; and
  - work in *self-employment* and *cooperative enterprises*.
- 2.3. Work in TVET programmes to cultivate a *lifelong learning* focus.

### 3. Developing comparable standards

- 3.1. Facilitate the continued development of internationally comparable qualifications frameworks including both TVET and general education.

### 4. Researching, developing, piloting and disseminating innovative practice and guidelines

- 4.1. Support national efforts to review and revise TVET and TVET TE curricula from a SD perspective.
- 4.2. Establish a consultative programme to develop appropriate guidelines for incorporating sustainable practices into TVET and TVET TE programmes.
- 4.3. Facilitate and support the development of an on-line professional development programme for TVET and TVET TE practitioners to develop their capacity to achieve SD in and through their practice.
- 4.4. Facilitate and support the development, piloting and dissemination of innovative practice to incorporate SD into TVET and TVET TE – including appropriate practices developed in

general education and general TE and including the development, piloting and dissemination of high quality outcomes-based systems of TVET and TVET TE for achieving SD.

4.5. Develop focused programmes through the UNEVOC Network and e-forum in support these developments – using the Network as a tool.

4.6. The recommendation for a book (9.1.4. above).

**5. Enhancing equity of access to quality TVET engagements and outcomes**

5.1. Convene a regional consultation meeting (or meetings) to map the dimensions of inequity of access to quality TVET TE and its impact on achieving SD, and to develop an agenda for action.

5.2. Facilitate the development, testing and dissemination of a framework for linking DW and SD in and through TVET and TVET TE.

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**10. RELATED INFORMATION**

Related information may be found at the following websites:

[www.unescobkk.org](http://www.unescobkk.org)  
[www.unevoc.unesco.org](http://www.unevoc.unesco.org)  
[www.ilo.org](http://www.ilo.org)  
[www.unep.org](http://www.unep.org)  
[www.esdtoolkit.org](http://www.esdtoolkit.org)  
[www.InWEnt.org](http://www.InWEnt.org)  
[www.vec.go.th](http://www.vec.go.th)  
[www.cmvc.ac.th](http://www.cmvc.ac.th)

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  5. Key Note Address – Richard Bagnall.
  6. Country Case Studies.
  7. ESD and TVET Initiatives.
  8. ESD Tool Kit.
  9. Guidelines and Recommendations for Reorienting Teacher Education to Address Sustainability.
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## ANNEX I FINAL LIST OF PARTICIPANTS

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