



RECOGNIZING GREEN SKILLS IN NON-FORMAL LEARNING SETTINGS: A COMPARATIVE STUDY IN ASIA

30 AND 31 AUGUST 2016

Venue: UNESCO Institute for Lifelong Learning, Hamburg Germany



United Nations
Educational, Scientific and
Cultural Organization



香港教育大學
The Education University
of Hong Kong





MESSAGES



**A welcome note from the
Director of UNESCO Institute for Lifelong Learning**



I am happy that the UNESCO Institute for Lifelong Learning (UIL) has the opportunity to host the follow-up Symposium on “Recognizing Green Skills in Non-Formal Learning Settings”. On two days, national experts from seven countries, China, India, Bangladesh, Nepal, Philippines, Malaysia, and Kazakhstan and one territory, Hong Kong SAR China, will be discussing the issues, challenges and trends in recognizing green skills in small- and micro-enterprises in four industries in the Asian context.

The comparative study has been conceived by the UNESCO-UNEVOC centre at the Education University of Hong Kong (EdUHK) SAR China, and the UIL, but it is you, the national experts from important research and policy-making institutions who are on the driver seat of this comparative study, with your insights, visions and national perspectives.

This Symposium is an important part of the United Nations 2030 Agenda of Global Sustainable Development Goals. In view of population pressures, climate change, environmental degradation and a foreseeable scarcity in natural resources, education for sustainable development is gathering momentum around the world. A new set of global Sustainable Development Goals (SDGs) have been crafted to replace the Millennium Development Goals (MDGs) and the Education for All (EFA) goals. There are in all 17 Sustainable Development Goals and 169 indicators to measure these goals. Lifelong learning and greening are supported by many goals.

Global goals are a useful way to harmonize efforts and make progress on particular issues. However, solutions for diverse and contextual problems have to be found at the national context. It is for this reason that we have chosen to hold this cross-country symposium.

Comparisons between countries are useful not only to identify the different gaps and possibilities but in today's globalized world, youth and adult learners and workers need to be equipped with the tools to succeed in an increasingly globalized labour market in which green

skills and greening of industries play an increasing role in labour market development.

There is a great deal going on in terms of workers' participation in learning activities that need to be analyzed through research. The biggest challenge is to make visible the invisible non-formal and informal learning activities. Much of the green skills, attitudes and values are not acquired in formal settings in schools or colleges, but through informal and non-formal means, 'on the job' in the workplace and through practice-based learning.

One of the objectives is to raise consciousness about what education could entail beyond formal education, and for people to give thought to the meanings of the terms lifelong learning and to recognizing learning in non-formal and informal settings.

In response to the call for green skills to be made more explicit, this study looks at how green skills can be included in recognition, validation and accreditation (RVA) mechanisms. The implementation of the *UNESCO Guidelines for the Recognition, Validation and Accreditation (RVA) of the Outcomes of Non-formal and Informal Learning* (UIL 2012) is one of the key strategies to make visible and give value to the hidden and unrecognized competences that individuals have attained in various settings, and promote lifelong learning.

I am sure that this symposium will produce evidence and cogent arguments for policy makers and draw clear conclusions with respect to the factors for and effects of recognizing green skills in non-formal

settings. There is much talk about the potential role of green skills and RVA, but very little evidence.

I am sure that the symposium will come a long way through mutual learning between projects, institutions and countries to analyse the various benefits and purposes of RVA and the importance of the systematic documentation and assessment of competences. In this spirit, I welcome the participants to this Symposium and wish them a productive and enjoyable symposium.

Arne Carlsen

Director, UNESCO Institute for Lifelong Learning

August, 2016

Message from the

Director of the UNEVOC Centre (Hong Kong SAR China)



Over the last two years the UNEVOC Centre at the Education University of Hong Kong (EdUHK) has been a co-leading partner together with the UNESCO Institute for Lifelong Learning (UIL) on the regional project entitled *The Inclusion of Green Skills in the Recognition of Prior Learning: A Comparative Study of Seven Countries in the Asia and Pacific Region*. The project examines the ways in which government policies, industry practices and educational approaches work in different contexts to achieve the greening of economies.

This symposium is the second one to take place during the project. It is hosted by UIL and provides an opportunity to exchange and generate ideas on how to improve the value of the process of the recognition,

validation and accreditation (RVA) of prior learning for micro-enterprises and small and medium enterprises (SME), with a particular focus on the inclusion of greening and environmental friendly practices in accredited competences.

Seven countries - Bangladesh, China, India, Kazakhstan, Nepal, Malaysia and the Philippines - and one territory, Hong Kong SAR, collected data and shared preliminary results last August in Hong Kong on the ways government policies, industry practices and educational approaches achieve the greening of their economies. Many challenges were identified by participants, some of them similar and some different across both the countries and across industries. The status of RVA varies across countries and often enterprises, particularly micro-enterprises, fail to see the value of RVA and even demonstrate apprehension towards the concept. In terms of environmental practices government regulations and support are considered to be the major contributors towards the greening of this type of enterprise. In addition, many believe that the attitudes and values held by the public with respect to greening should be changed. This, in turn, could assist with the greening of operations across enterprises.

This symposium will summarize finalized results and discuss how our understanding of existing challenges, issues and practices can help to formulate criteria to shape governments' policies on greening and RVA, and to ensure green skills are included in RVA processes. The symposium provides a good platform for discussion, as time allocated

to presentations is deliberately limited to short inputs at the beginning of the event.

I am confident that this symposium will achieve its aims and make a significant contribution towards development of a model for the effective recognition, validation and accreditation of green skills based on evidence collected during our two-year study. In particular, it will assist with the development of an understanding about how to approach the greening of skills through RVA in support of the greening of SMEs and micro-enterprises. Results will be put together in a book that is under preparation now, so they can be shared with a broader community.

I hope all participants have the chance to engage in fruitful discussions and constructive exchanges.

Margarita Pavlova

Director

UNEVOC Centre (Hong Kong), a member of UNESCO-UNEVOC network



SYMPOSIUM AGENDA



Title: Recognizing Green Skills in Non-formal Learning

Settings: A comparative study in Asia

Venue: UNESCO Institute for Lifelong Learning (UIL) Feldbrunnenstr. 58,
20148 – Hamburg, Germany

Date: 30 and 31 August 2016

Objectives:

- 1) To examine the issues, challenges and trends in greening of industries and skills, and recognition of green skills through recognition, validation and accreditation (RVA) mechanisms.
- 2) To come up with critical factors contributing to the development of a model for an effective recognition, validation and accreditation (RVA) of green skills.
- 3) To discuss the publication 'Recognizing green skills in non-formal learning settings: A comparative study in Asia'.
- 4) To agree upon the next steps – piloting the model in selected countries.

Tuesday , 30 August 2016

9:30 – 10:30	<p>Welcome Session</p> <p>Moderator: Madhu Singh</p> <ul style="list-style-type: none">• Welcome remarks, Arne Carlsen, Director of UIL• Welcome remarks, Margarita Pavlova, Director UNESCO-UNEVOC, EdUHK Hong Kong SAR China• Introduction of participants <p><i>Introduction to the Symposium</i> (Madhu Singh) Setting the stage: Review workshop objectives and the developments since our last meeting</p>
10:30 – 11:00	Coffee/ tea break
11:00 – 13:00	<p>Session 1: Key issues raised by the countries</p> <p>Moderator: Hong Kong SAR China (Margarita Pavlova)</p> <p>What is the current status of:</p> <ol style="list-style-type: none">a. Green skills in the respective industries? What are the challenges and opportunities?b. Mechanisms (both official recognition and valuing green skills by different actors for different purposes) in use to

	<p>recognize/assess existing skills. “Skills” are interpreted broadly and include knowledge, skills, values, attitudes and behaviors. What are the challenges and opportunities?</p> <p>c. Main causes that underpin challenges?</p> <ul style="list-style-type: none"> • Bangladesh (Faruque A. Haolader) • India (Tanmay Bishnoi) • Nepal (Manoj Sharma Neupane) • Philippines (Elmer Talavera) • Malaysia (Sarimah Ismail) • Kazakhstan (Zhanbol Zhilbayev; Mariyam Mukatova; and Lyailya Syrymbetova) <p>d. Short input by Jürgen Forkel-Schubert (Ministry of Environment and Energy Hamburg) on (i) Recognition of non-formal/extracurricular activities in some states of Germany; (ii) procuring green products.</p> <p>Discussion: commonalities and specificities</p>
13:00 – 14:30	Lunch at Restaurant 26

<p>14:30 – 15:30</p>	<p>Session 2. Analysis</p> <p>Moderator: Philippines (Elmer Talavera)</p> <p>a) What is the potential for recognizing green skills in your country?</p> <p>b) What are the conditions for skills recognition at the macro, meso and micro levels?</p> <p>c) Input by Dr. Kai Hünemörder (Head of ZEWU - Centre for Energy, Water and Environmental Technology, Elbcampus, Hamburg) on (i) Recognizing Green skills in Skilled Crafts Business and Industry in Hamburg; (ii) Competence assessment of refugees in green jobs</p>
<p>15:30 – 16:00</p>	<p>Coffee/ tea break</p>
<p>16:00 – 17:30</p>	<p>Session 3: Factors contributing to a model development for recognizing green skills in non-formal learning settings</p> <p>Moderator: Kazakhstan (Zhanbol Zhilbayev)</p> <p>Working groups (3 people per group)</p>

	<ol style="list-style-type: none"> 1. Which policies and practices can support the recognition of green skills? 2. What are the conditions that guarantee the inclusion of ideas on sustainability, on awareness about green economic restructuring and on lifelong learning into RVA? 3. What skills, knowledge, competences should be included in RVA? <p>Short presentations using flipcharts</p>
19:00	Dinner at Arkadasch

Wednesday, 31 August

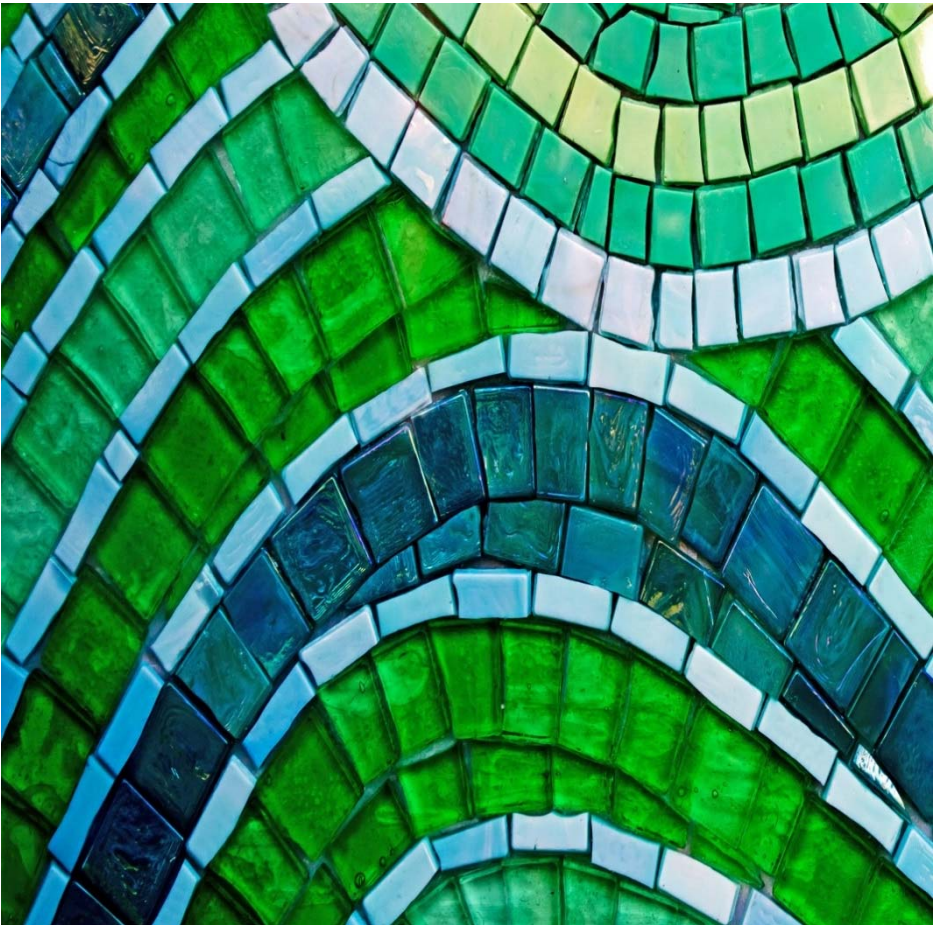
9:30 - 10:30	<p>Session 4: Review of Day 1</p> <p>Moderator: Nepal (Manoj Sharma Neupane)</p> <ol style="list-style-type: none"> 1. Margarita and Madhu will present a summary and the key points raised during Day 1.
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10:30 – 11:00	Coffee/ tea break
11:00 – 12:30	<p>Session 5: Further factors contributing to model development of RVA inclusion in green skills</p> <p>Moderator: Bangladesh (Faruque A. Haolader)</p> <ol style="list-style-type: none"> 1. Which stakeholders need to be involved and in what ways and for what purpose at the macro, meso and micro levels for recognizing green skills in non-formal and informal learning settings? 2. How can the model development align to principles of lifelong learning?
12:30 – 13:00	<p>Session 6: Conclusions and recommendations: Interventions from the group</p> <p>Moderator: Philippines (Elmer Talawera)</p> <p>This session will synthesize the main conclusions. It will identify gaps and additional information that may need to be explored by the partners.</p>
13:00 – 14:30	Lunch at Restaurant Bolero
14:00 – 15:30	<p>Sessions 7: Discussing the next steps concerning the publication</p> <p>Moderator: Malaysia (Sarimah Ismail)</p>

	<ol style="list-style-type: none"> 1. Timeline for submitting final chapters 2. Filling the gaps based on the symposium results 3. How well is the publication addressing the demands of the different constituencies of academics, educational managers, RVA and green skills practitioners, policy makers and industry.
15:30 – 16:00	Coffee/ tea break
16:00 – 17:00	<p>Closing Session 8:</p> <p>Moderator: Margarita and Madhu</p> <p>Discussion of next steps and ideas for follow-up, collaboration, search for further evidence.</p>
	Informal get-together and sight-seeing



SYMPOSIUM BACKGROUND NOTE



Recognizing Green Skills in Non-formal Learning Settings: A comparative study in Asia

This Symposium presents the results of a study conducted in seven countries and one territory in Asia and the Pacific (China, India, Philippines, Kazakhstan, Nepal, Malaysia, Bangladesh and Hong Kong SAR, China) to examine skills recognition aimed at improving environmental and sustainable development in four industries (the catering, automotive and waste management industries in the service sector and PVC production in the manufacturing sector) in both formal and informal settings.

The objectives of the study are (1) to map environmentally friendly practices in the respective industries; (2) to identify mechanisms used to recognize and assess existing skills in seven countries and one territory; (3) to evaluate the potential for the inclusion of green skills in the recognition, validation and accreditation (RVA) mechanisms based on comparisons with countries with a higher standard of green skills inclusion (e.g. Australia); (4) to identify factors contributing to models and principles for the development of green skills and their inclusion in RVA; and (5) to set up at least one pilot in one of participating countries to evaluate the model.

A short, semi-structured questionnaire was prepared by EdUHK and UIL for data collection. In each of the seven countries and one territory, researchers visited eight enterprises in four industries (One small and medium-sized enterprise, and another micro-enterprise in the informal

sector in each industry).

The Symposium will discuss the results of this study with respect to the following four themes:

1. *Policies and legislation on environmental regulation in each sector and the role of the industry in the greening economy.* Even though greening practices are being discussed broadly in an international context, national conceptions and industry sectors have varying foci. The Symposium provides an opportunity to discuss the diverse policies and legislation on environmental regulation in each industry sector that is behind the green practices and programmes.
2. *Green skills: Defining and reorienting competences for environmentally friendly green practices.* The acquisition of skills (knowledge, practical skills and competences) obtained non-formally and informally (e.g. on-the-job and through life experiences) plays a central role in developing environmentally friendly practices in countries' industry sectors. This section of the workshop allows room for profound debate on these skills. Different approaches towards defining these skills across participating industries and countries presented by participants will allow to develop an understanding of how green skills can be conceptualized and identified for the purposes of training.

3. *Recognizing skills through RVA mechanisms.* Promoting green skills is a task for stakeholders all over the world. Mechanisms and procedures for recording, making visible, and recognizing skills and prior learning obtained in non-formal and informal settings are gaining global attention. Green skills require even more attention from RVA mechanisms, because these have to do with attitudes, values and ethical behaviour that are acquired informally and are therefore tacit and hidden. Different stakeholders have different stakes in valuing green skills and giving them recognition. This section of the workshop will discuss the multifaceted purposes of RVA and the interests at stake.

Issues relevant to employees, employers and training providers will be discussed. RVA can help employees to further their green skills. RVA can therefore be an important means of promoting personal and career development, labour market suitability and employability. RVA can strengthen human capital management by enabling employers to identify the overall stock of green skills and qualifications in the enterprise, thus making it easier for employers to invest in green skills training for their employees. For training providers, RVA can help to create more customized training.

For small and micro-enterprises (SMEs) issues related to assessing competences are quite different to large-scale enterprises operating in an international environment. Here, although informal on-the-job learning is of great importance, not many SMEs use formal mechanisms for assessing this learning or the competences.

Challenges of valuing RVA of skills in SMEs are related to many causes (that will be discussed during Symposium). Even when training is expressed in terms of industry sector standards, employers and employees do not regard RVA as relevant for their work environment. Ways of measuring skills through mechanisms such as the recognition of skills and prior learning will be discussed.

4. *Making green skills sustainable: Arriving at a model for the pilot project.* As workplaces are supposed to learn how to participate actively in shaping environmentally friendly practices in a sustainable way, it is appropriate to provide them with improved possibilities of participating in these changes. This part of the workshop provides an opportunity to discuss the structural, institutional, governance and individual factors contributing to green skills development and their recognition that have emerged from the results of the country studies. On the basis of this discussion, the Symposium aims to arrive at principles and enabling conditions for effective green practices and their recognition through mechanisms such as RVA. This model will then be piloted in some countries.

The Symposium aims to achieve a number of outcomes:

- Conceptual clarifications:
 - To clarify similarities and differences that exist across industries and across countries in interpreting green skills, applying environmental practices, and mechanisms for recognising informal learning.

- To identify policies that support or are required to support environmental practices in SME and conditions necessary for effective RVA use in developing of greening skills.
- Practical implications:
 - To identify components of the model that can be tested in selected countries to evaluate the findings of the study. The results can serve as a basis for policy recommendations.

The Symposium will be held in English.



ORGANIZING COMMITTEE



Dr. Margarita Pavlova



Dr. Margarita Pavlova, Director of the UNESCO-UNEVOC Centre (Hong Kong SAR China)

Associate Professor, Department of International Education and Lifelong Learning, Education University of Hong Kong (EdUHK)

Dr. Margarita Pavlova has more than twenty years of international work experience in education across a

variety of contexts (Europe, Asia, USA and Australia). Her research focus is concerned with policy, planning and curriculum development in vocational education at both national and international levels. She is internationally recognized for her work in the area of education for sustainability, development and green skills. Margarita works with such agencies as the Asian Development Bank; UNESCO; and ETF where she led a number of research projects that aimed at developing policies, approaches to and resources for vocational education, and exploring related issues such as capacity building and poverty alleviation.

She has published widely in the fields of her expertise including a sole authored book on Technology and vocational education for sustainable development: Empowering individuals for the future (Springer, 2009). She currently serves on the editorial board of the International Journal

of Vocational Education and Training and on the editorial advisory boards of two book series published by Springer: Technical and Vocational Education and Training: Issues, Concerns and Prospects, and Education in the Asia-Pacific Region: Issues, Concerns and Prospects.

Dr. Madhu Singh

Senior Programme Specialist

UNESCO institute for Lifelong Learning, Hamburg

Dr. Madhu Singh joined UNESCO in 1998. Prior to this, Madhu Singh was researcher at the department for educational sciences of Technical University Berlin Germany, from where she got her Doctor of Philosophy (D.Phil.) for her work on Acquisition of Competences in the Informal Sector. Before coming to Germany, she worked as lecturer in the sociology of education at Poona University in India and as Commonwealth research fellow at the University of London Institute for Education.



As part of UIL’s programme Lifelong Learning Policies and Strategies (LLPS), she is currently coordinating the Global Inventory of National and Regional Qualifications Frameworks (NQFs) and UIL’s Global Observatory of Recognition, Validation and Accreditation of Non-formal

and Informal learning. Her other areas of work are Integrating the lifelong learning perspective into TVET and workplace learning for sustainable development.

Her publications include: *Adult Learning and the Changing World of Work* (eds, with Rupert Maclean, 2013); *Meeting Learning needs in the Informal Sector. Skills development for decent work, empowerment and citizenship* (ed. 1999); *Linking Recognition Practices and National Qualifications Frameworks: International benchmarking of experiences and strategies on recognition of prior learning* (eds, with Ruud Duvekot, 2013); *Global Perspectives on Non-formal and Informal Learning: Why recognition matters* (Springer 2015, Dordrecht, Open Access).

Ms Anne Dumas, Project Secretary, UNESCO Institute for Lifelong Learning, Hamburg



Anne joined UIL recently. Anne has a degree in commercial law from the University of Auckland, New Zealand, and hails from Viet Nam.



PARTICIPANTS



Mr. Faruque Ahmed Haolader

Associate Professor at the Islamic University of Technology (IUT),
Bangladesh

The Islamic University of Technology (IUT) is a subsidiary organ of the



Organization of Islamic Cooperation (OIC).

Dr. Haolader has more than 30 years of professional experience, which includes teaching at several TVET institutions and technical teachers training colleges in Bangladesh, and research on Information Technology, Electronic System Design & Development in the field of Industrial

Automation and Safety in Germany and England. Dr. Haolader has also worked as computer programmer at the Ministry of Planning, Government of Bangladesh. He has a doctoral degree in Technical and Vocational Education from Stuttgart, Germany; a Master's degree in Vocational and Adult Education for international development work from Dresden, Germany; a Master's degree in Engineering (Electronics & IT) from Birmingham, England; and a Bachelor degree in Electrical and Electronic Engineering from Dhaka, Bangladesh. He was awarded the German DAAD Scholarship, as well as the British and Bangladesh Government Scholarships. His research interests in TVET focus on teaching-learning, curricula, didactic media, educational technology, competence modeling and measurement. Dr Haolader has attended and presented papers at many international conferences/symposiums/workshops in the USA, Europe, and Asia and

published numerous research articles as well written two text books.

Mr. Tanmay Bishnoi

Head - Standards & Research

Skill Council for Green Jobs

New Delhi, India



Mr. Bishnoi has industry experience ranging from consulting and advisory to training and skills development. He has multi-country consultancy experience dealing with solar PV power plants that spans across India, China, Kazakhstan, Dubai and Qatar. He has prolific experience in the renewable energy industry. He is a certified master trainer of Skill Council for Green Jobs (SCGJ), and is known for his expertise on National Skill Qualification Framework (NSQF), and Qualifications Package/National Occupational Standards (QP/NOS) development in the field of renewable energy.

Mr. Bishnoi is a certified INPACT trainer, assessor and master Trainer from International Finance Corporation (IFC) (a World Bank Group organization) and the National Institute for Entrepreneurship and Small Business Development (NIESBUD), Government of India. He is a certified PVsyst user and PVSOL specialist from PVsyst SA Switzerland, and Valentin Software Germany, respectively. He is a civil

engineer from National Institute of Technology (NIT), Warangal. He has a Master's in Management in Construction from Kingston University, London. He has done a professional development program on energy innovation and emerging technologies from Stanford University, USA. He is a certified renewable energy expert from European Union Energy Centre. He has a Galileo Master Certificate (GMC) in renewable energy solutions, management and finance; solar energy; and energy efficiency in buildings.

Mr. Bishnoi has worked as capacity buildingspecialist/consultant/master trainer at the National Institute for Solar Energy (NISE), Government. of India. He has been the architect of the Solar Energy Training Network (SETNET) in India, as part of a joint project of NISE and USAID PACE-D TA program. Mr. Bishnoi is member secretary for the curriculum and content development committee at NISE.

Mr. Bishnoi has been associated with many other organizations like the Ministry of Urban Development, the Ministry of Micro and Small and Medium Enterprises (MSMEs), and NIESBUD.

Mr. Juergen Forkel-Schubert

Head of division Education for Sustainable Development/ESD in the Ministry of Environment and Energy in Hamburg



Mr. Forkel-Schubert has rich experience in non-formal and informal educational sectors. Mr. Forkel-Schubert chairs many working groups on local, national and international levels. He chairs the intergovernmental initiative 'Hamburg is Learning Sustainability' and the German group of 21 Education for Sustainable Development (ESD) cities. Since Hamburg's becoming a key partner in UNESCO's Global Action Programme 'Education for Sustainable Development 2015-2019' (GAP ESD), Mr. Forkel-Schubert has been working as co-chair for the working group 'Accelerating sustainable development at the local level' and has been responsible for networking with many international partners.

Mr. Forkel-Schubert established an ESD quality management system for freelance educators and ESD- institutions working in the extracurricular sector in Hamburg and Northern Germany. Within this programme, educators can gain a certificate, if they fulfill the requirements of six quality criteria. Mr. Forkel-Schubert provides workshops, information materials and seminars for the applicants as well as for the alumni. Some of initiatives undertaken by his department

can be found under the following Links: Initiative Hamburg is learning Sustainability:

<http://www.hamburg.de/nachhaltigkeitlehren/3243684/international-information/>; Hamburg Plan of Action

<http://www.hamburg.de/contentblob/2516594/data/hhap-2009-2010-engl-.pdf>; NUN-Certification scheme:

<http://www.hamburg.de/contentblob/5111664/data/nun-zertifizierung-eng-.pdf>

Dr. Kai Hünemörder

Head of ZEWU – Centre for Energy, Water and Environmental Technology (ZEWU)

Hamburg Chamber of Skilled Crafts, ELBCAMPUS, Hamburg, Germany



Mr. Hünemörder gathered experience on green skills in the universities of Kiel, Copenhagen and Lisbon. After his work as scientific adviser for Environment and Energy to a Parliamentary Fraction in the 'Schleswig-Holsteinischen Landtag', he built up the first German Science Foundation-Training group on Environmental History at the University of Göttingen together with a group of twelve professors.

Mr. Hünemörder has been working for the Hamburg Chamber of Skilled Crafts since 2007. As head of the Centre for power engineering, water and environmental technology (ZEWU) he leads a team, which provides craftsmen and technicians with Technical and Vocational Education and Training (TVET) on practical energy and environmentally-related skills (www.zewu.de). In addition, the ZEWU

advises experts and house owners through its EnergyBuildingCenter (www.energiebauzentrum.de) and its Solarcenter (www.solarzentrum-hamburg.de).

As one of the key partners of the Ministry of Environment and Energy in Hamburg, Mr. Hünemörder developed several projects for climate protection, green skills, and informal knowledge transfer in the metropolitan city of Hamburg.

Mr. Hünemörder is board member of the Hydrogen association of Hamburg. In 2016, the Minister of Environment and Energy appointed him as a member of the Advisory Council for Hamburg grids. Funded by the German Federal Environmental Foundation (DBU), he is recently setting up a Programme for Refugees from Syria and other civil war regions to transform formal and non-formal skills in officially recognized green skills (with Mr. Hörnicke) (https://www.youtube.com/watch?v=_AINVceco5o).

Mr. Hünemörder has published extensively. Some of his publications include: (1) *Die Frühgeschichte der globalen Umweltkrise und die Formierung der deutschen Umweltpolitik (1950-1973)*, Stuttgart 2004. (Historische Mitteilungen der Ranke Gesellschaft: Beiheft 53). (2) *Vom Expertennetzwerk zur Umweltpolitik: Frühe Umweltkonferenzen und die Ausweitung der öffentlichen Aufmerksamkeit für Umweltfragen in Europa (1959-1972)*, in: *Archiv für Sozialgeschichte* 43 (2003), S. 275-296. (3) *Kassandra im modernen Gewand. Die umweltapokalyptischen Mahnrufe der frühen 1970er Jahre*, in: Frank Uekötter; Jens Hohensee

(Eds.): Die Geschichte der falschen Umwelt-Alarme. Stuttgart 2004. (4)
1972 – Epochenschwelle der Umweltgeschichte?, in: Franz-Josef
Brüggemeier und Jens Ivo Engels (Eds.): Natur und Umwelt in
Deutschland nach 1945, Frankfurt am Main 2005.

Dr. Sarimah Ismail

Senior lecturer at the Department of Technical and Engineering
Education, Faculty of Education, University Teknologi Malaysia (UTM)



Dr. Sarimah Ismail has a Bachelor degree
in Home Science Education from Universiti Pertanian Malaysia,
Master's in Home Economic Education from Queensland University of
Technology, Australia, and PhD in Food Service Management from
Bournemouth University, United Kingdom. Her academic qualifications
and professional practices have placed her in the field of Technical and
Vocational Education (TVE) since 1993.
Besides serving as a senior lecturer in the Department of Technical and

Engineering Education, Faculty of Education, Universiti Teknologi Malaysia, Dr. Sarimah Ismail represents several ministries such as the Ministry of Health, the Ministry of Education and the Ministry of Prime Minister's Department, as coordinator and trainer in the Food Handling Training School; as panellist in Quality of PERMATA Q; and as Chairperson of Home Science Textbook Assessor

Dr. Ismail represents Tiara Timur Resources as manager of Food Research and Development Department; and represented Malaysia as research coordinator in the Southeast Asian Vocational Education Research Network (SEAVERN).

Dr. Ismail's research interests are in TVET curriculum development and evaluation; management and administration in TVE; instructional teaching module development; green skills; sustainability, innovation and creativity in teaching and learning; and student-centered learning, particularly problem-oriented project-based learning.

Dr. Ismail has lead many research projects funded by national and international organizations. She succeeded in supervising over 200 final year undergraduate projects; four PhD graduates; six Master's (full research) graduates; five Master's (taught course and research) graduates and 11 Master's (taught course) graduates. Dr. Ismail has published several articles in national and international journals and produced book chapters.

With 23 years of teaching and learning experience in higher education institution, Dr. Ismail has taught a variety of TVE courses: Management and Administration in TVE; Models of Teaching in TVE; Innovation and

Product Development; Marketing, Commerce and Entrepreneurship; Workshop Safety; Basic Invention; Food Technology, Food Preparation; Basic Food Preparation and Nutrition; Food Service; and Fabric and Clothing, and Clothing studies. Dr. Ismail owns more than 200 intellectual properties and has received more than ten awards and appreciations. Dr. Ismail's consultation focus has been on knowledge transfer to the community through TVE training. She has life membership in fifteen associations both at national and international levels.

Mr. Rajat Khawas

Head of Business – Services & Government

Manipal City & Guilds Pvt. Ltd. India



Mr. Khawas has over 20 years of experience in education, development and technology in the US, the UK, and the Middle East, apart from India. He has been a start-up specialist setting up multiple businesses across multiple sectors: Education and Training; Media & Entertainment; TVET; Hospitality; and Banking, Financial Services and Insurance (BFSI). In addition, he has been part of the senior management team at Tata Interactive and was part of the Tata Business excellence process.

Mr. Khawas has been core leadership team member of the first UK-India Skills Joint Venture - Manipal City & Guilds. He has been part of

the start-up from October 2009. He built a strong network with key stakeholders across international, national and state levels and was successful in starting-up multiple businesses and national and international projects with the corporate sector and industry associations. He is founding member of the Joint Policy Advisory group - a policy and research initiative in the area of skills development which was initiated to help policy makers to receive evidence-based inputs to facilitate actionable steps. Rajat is currently developing the assessment, certification and accreditation business.

Mr. Khawas has been working as a consultant with different agencies, including with the European Commission on the National Skills Qualification Framework (NSQF); with the International Labour Organization (ILO); with the Indian Planning Commission on the employability of engineers; and with UNESCO-UNEVOC. In addition, he has worked on several committees and commissions including serving as committee member of the National Skills Committee of Chambers of Indian Industry (CII), Federation of Indian Chambers of Commerce and Industry (FICCI). His research is in the area of sector approaches to skills development. One of the studies recently initiated by Mr. Khawas is on the recognition of prior learning in construction and in gems and jewelry.

Dr. Ram Hari Lamichhane

Director-General of Colombo Plan Staff College, Philippines.

Former CEO of the Council for Technical Education and Vocational Training (CTEVT), Nepal

Dr. Lamichhane has been working in TVET for more than 20 years. He recently got selected as the Director-General of Colombo Plan Staff College Philippines. Dr. Lamichhane started his career as a waiter-cum- housekeeper in the Kathmandu's hotel industry, while he studied for the Intermediate degree in Commerce (I. Com). After two year's work in the hotel industry, he joined a private company to work as a business clerk with major responsibilities in account-keeping, banking transaction, then became an account consultant in different companies.

After graduating in Bachelor of Commerce, and also finishing his Master's of Business, he continued his career as an officer of the Council for Technical Education and Vocational Training (VTEVT) in Kathmandu Nepal. After that, he studied Advanced Certificate in Hospitality Management from Technical and Further Education (TAFE), at Regency Hotel School, South Australia. He also received his M.Phil. and PhD in Education from Kathmandu University with a research focus on participation of poor and disadvantaged people in TVET in Nepal and worked as a project manager of a project on skills for employment.

Dr. Lamichhane studied Education Planning and Policy in Vanderbilt University, USA as a Fulbright/Humphrey Fellow in 2010

The Government of Nepal appointed him Member Secretary (CEO) of

CTEVT for 4 years in 2013 May. He worked as a coordinator to prepare the TVET Policy 2012; the National Vocational Qualifications Framework (NVQF); Competency–Based Training (CBT) curricula; and market-led TVET and sustainable funding of TVET in Nepal. Access, equity, quality and resource management are the key priority areas in CTEVT.

On the first of September 2016 Dr. Lamichhane joins the Colombo Plan Staff College, Philippines. He still remains part of the Green Skills comparative research team.



Prof. Mariyam Mukatova

Vice-president of the National Altynsarin
Academy of Education, Astana
Kazakhstan

The National Academy of Education is named after Altynsarin of the Ministry of Education and Science of the Republic of Kazakhstan.

During the past 23 years, Prof. Mariyam Mukatova worked as a teacher of Russian language and literature, head of department, head of the scientific department at the university, deputy director of the "Textbook" Republican Scientific and Practical Centre.

Prof. Mukatova has a degree in teaching, academic degree of candidate of pedagogical sciences and the academic rank of Associate Professor.



Mr. Manoj Sharma Neupane

Deputy Director of Council for Technical Education and Vocational Training (CTEVT), Nepal

The Council for Technical Education and Vocational Training (CTEVT) is the apex organization for coordinating and managing TVET programmes in Nepal.

Mr. Neupane has more than 20 years of experience of working in TVET, particularly research. He is presently in-charge of the research unit in CTEVT. Beside the regular jobs of CTEVT, he has been a part time consultant in various governmental as well as non-governmental organizations.

He completed his Master's in Economics in 2004 and M.Phil. in Labour Market Economics from Tribhuvan University Kathmandu in 2011, specializing. He is also an active member of Nepal Economic Association.

His articles have been published in national journals and professional bulletins. Among his important publications are: (2014) Technical and vocational education and training (TVET) in Nepal: An analytical evaluation. *Special Publication of Department of Education*.

Department of Education, Ministry of Education, Nepal; (2013) Analysis of SLC result: As an indicator of quality measurement. *Annual Educational Journal*, 2(1). Controller of Education; (2013). Is investing in vocational training profitable? An analysis of rate of return. *Technical*

Prof. Lyailya Syrymbetova

Director of the Research Center at the Altynsarin National Academy of Education, Astana, Kazakhstan



The Altynsarin National Academy of Education is under the Ministry of Education and Science of the Republic of Kazakhstan. During 38 years of service, Prof. Lyailya Syrymbetova held several positions.

Prof. Syrymbetova was teacher of Russian language and literature, school principal, deputy chief of the city department of education, lecturer and head of university department.

Prof. Syrymbetova has a degree in teaching, a degree of candidate of pedagogical sciences and the academic rank of an Associate Professor.

Mr. Elmer Talavera,

Executive Director

National Institute for Technical Education and Skills Development (NITESD), Technical Education and Skills Development Authority (TESDA) Philippines.



Mr. Talavera has been with TESDA since October 1982. His career and experience in TESDA spans manpower planning and development; research; industry boards; apprenticeships; TESDA policy; assessment and certification; trainers' development; and field operations, most of which are in Mindanao.

Currently he serves as the TESDA representative to the Technical Panel of the Expanded Tertiary Education Equivalency and Accreditation Program (ETEEAP) of the Commission of Higher Education (CHED), and in the National Commission for Culture and the Arts (NCCA) Committee on Cultural Education for 2014-2016. Mr. Talevera was the leader of the Philippine Team for the ASEAN Skills Competition in Jakarta (2012) and Hanoi (2014).

Mr. Talavera finished his Bachelor in Mathematics in 1980 at the University of the Philippines, Diliman, Quezon City, and acquired his Master's in Development Management in 1995 at the Asian Institute of Management (AIM), Makati City.

He has been dispatched to a number of international capacity development workshops and conferences in Asia, Latin America and Europe (Indonesia, Mannheim, Feldafing and Berlin Germany, Australia, Taiwan, Thailand, South Korea, Chile, Uruguay, Brazil, Colombia, Costa Rica, Saudi Arabia, Sri Lanka, Beijing China, Cambodia and Vietnam) on education planning, dual training systems, TVET financing, TVET management, standard development for trainers, lifelong learning training and sustainable development, among others.

Mr. Tony ZHENG Gangqiang

Head of Foreign Affairs Office &
International Education Centre,
Zhejiang Technical Institute of
Economics, China



Having been a teacher since 1982, Mr. Zheng has rich experience in teaching and academic research, especially curricula development building.

Mr. Zheng is committed to developing and implementing competency-based curriculum in higher vocational education, especially, training up students in green skills in the auto-related major.

His hosted course, Auto English, was awarded the National Excellent Course by the Ministry of Education of People's Republic of China



**Professor Zhanbol
Zhylbayev**

President of the National
Altynsarin Academy of
Education, Astana,
Kazakhstan

Prior to becoming President of the Academy, Prof. Zhybayev served as a school teacher, school principal, head of the city department of education, Deputy Head of the regional department of education, Deputy Mayor of the city.

Prof. Zhylbayev has worked in the Ministry of Justice, the Ministry of Education, and in the city administration during his 34 years of working life.

Prof. Zhylbayev received his education and training as a teacher of basic military training and physical education.

Prof. Zhylbayev is at once an economist, accountant, lawyer and gained his title of Ph.D. Associate Professor



THE COLLABORATING INSTITUTES



UNESCO Institute for Lifelong Learning



As UNESCO's global centre of excellence for lifelong learning the UNESCO Institute for Lifelong Learning (UIL) undertakes research, capacity development, networking, and publication in lifelong learning with a focus on adult and continuing education, literacy and non-formal basic education. It supports Member States in developing their capacities for comprehensive provision of lifelong learning opportunities for all, with a focus on disadvantaged and marginalized groups.

Activities in the institute are grouped into three programme areas and specific areas of intervention:

(a) Lifelong learning policies and strategies: i) Strengthening capacities for developing national lifelong learning policies and strategies; ii) Strengthening evidence-based research and providing technical assistance in developing national structures and procedures to recognize the outcomes of non-formal and informal learning; and iii) Expanding the UNESCO Global Network of Learning Cities (UNESCO GNLC).

(b) Literacy and basic skills: i) Integration of literacy and basic skills in national policies, strategies and programmes; ii) Action-oriented and policy-driven research to improve relevance and quality of empowering literacy policies and programmes; and iii) Developing capacities of literacy stakeholders for improved programme design, management and evaluation within a lifelong learning perspective; (iv) Creating a multi-stakeholder partnership for literacy.

(c) Adult learning and education: i) Monitoring the implementation of the CONFINTEA agenda through UNESCO's Global Report on Adult Learning and Education (GRALE); ii) Supporting Member States to implement the Belém Framework for Action; and iii) Sharpening the understanding and relevance of adult learning and education, including monitoring of the implementation of UNESCO's Recommendation concerning Adult Learning and Education.

The Institute's programme activities comprise a variety of modalities, with special emphasis on advocacy, capacity development, action-oriented and policy-driven research, and reinforcing networks of policy-

makers, experts and practitioners and promoting regional and cross-regional cooperation.

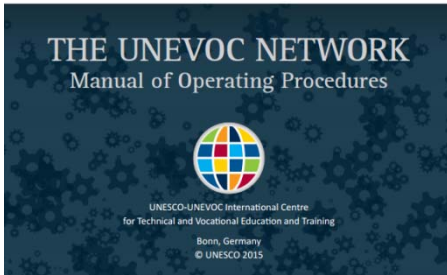
The UNEVOC centre in Hong Kong SAR China

The UNEVOC Centre assists the UNESCO-UNEVOC International Centre as part of the world-wide UNEVOC Network (Flagship Programme), in:



- ❖ Stimulating international and regional cooperation concerning human development
- ❖ Promoting best and innovative practices in TVET
- ❖ Knowledge sharing
- ❖ Mobilizing expertise and resources
- ❖ Strengthening partnerships with other relevant agencies

UNEVOC Centre (Hong Kong) is a member of UNESCO's specialized centers for technical and vocational education and training (TVET). Established in 2008, our center received an award from the UNESCO-UNEVOC International Centre, Bonn, for its active involvement in TVET research and development. Our center, as a part of the world-wide



UNEVOC Network, makes strides in strengthening and upgrading the TVET systems and skills development through stimulating international and regional cooperation in research and knowledge sharing at the local, national, regional and world-wide levels. Our center echoes the UNESCO's mandate to promote social integration, harmony and peace throughout the region. The UNEVOC

Centre (Hong Kong) places strong emphasis on two themes: Youth and Skills and Greening of Skills. The Hong Kong Center pledges to develop a strong sense of community and lifelong connections with local and overseas partners to foster on-going collaboration activities that can lead to a sustainable future

UNEVOC Network is an exclusive global platform for Technical and Vocational Education and Training (TVET) with the aim to further mainstream South-South and North-South-South cooperation. The UNEVOC Network, coordinated by the UNESCO-UNEVOC International Centre, is made up of UNEVOC Centres, which are established in TVET institutions and serve as focal points in the provision of services and platforms for international and regional cooperation in TVET. The Network is instrumental in the production and dissemination of research, case studies, databases, publications, and

enables the UNESCO-UNEVOC International Centre to perform its function as a clearinghouse.



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