TVET, Climate Change and Green Jobs

International Leadership Training
February 2013 – November 2013
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Editorial

Development means change

However, not only organisations and systems undergo change, but people also change organisations and systems.

That is the reason why Human Capacity Development (HCD) is a core element of German development cooperation. The International Leadership Training (ILT) provides opportunities for highly qualified and motivated people from developing and emerging countries to prepare specifically for future leadership in their home countries. Tailor-made courses are designed to meet the needs of various sectors and regions in the world, all of them following the same practice-oriented holistic concept. If you study the schedule of the ILT programme in this brochure, you will find topics and methods we wish to disseminate. However, ILT is much more. The main objective of all ILT courses is to promote leadership competences. Competences cannot be taught. To become competent, each individual is responsible for applying, reflecting and expanding the knowledge and experience gained and adapting his/her own behaviour to specific values. Thus the ILT also enhances self-learning competences and contributes to developing conceptual, networking and anticipatory thinking. Competence development will be particularly successful in a stimulating learning environment with a generous time frame to facilitate experiential learning and sound guidance. Germany has a lot to offer. Participants can experience change processes first hand in real life. German reunification, the transformation of large industrial regions into service and science centres, the country’s advanced orientation towards sustainability in society and economy, and the development of the European Union provide a rich source of stimulation for ILT participants to take action. The course structure promotes intercultural management competence and an orientation towards socially responsible behaviour of executives and repeatedly encourages the international exchange of experiences between courses. We would like to use this opportunity to thank all enterprises and institutions that have sponsored ambitious internships for many years. The internship module provides the basis for gaining intensive experiences and presents the biggest challenge at the same time. Participants dive into German work and real life; they learn first-hand about current standards of the relevant industry, experience organisational development and make many contacts. Various studies have proven that after returning to their home countries and previous employers, ILT graduates are prepared to accept a high degree of responsibility with regard to initiating and managing change processes. They remain networked with German businesses, scientific institutions and civil society organisations.

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Profile of GIZ

Comprehensive know-how for sustainable development – All under one roof.

Efficient, effective and partner-oriented – this is our approach to supporting humans and societies in developing, emerging and industrialised countries when it comes to developing their own prospects and improving their living conditions. The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH stands for these goals.

Since January 1, 2011, GIZ has pooled the competences and long-standing experiences of the German Development Service (DED), the German Agency for Technical Cooperation (GTZ) and InWEnt – Capacity Building International, all under one roof. As an enterprise owned by the Federal Government, we support the German Government in achieving its objectives in the field of international cooperation for sustainable development.

Efficient support for development

We offer our partners demand-driven, tailor-made and effective solutions for sustainable development thus enabling them to reach their long-term development goals independently. Furthermore, we operate in many fields including economic development and employment promotion, governance and democracy, peacemaking, security, reconstruction and civil conflict transformation, health and basic education as well as environmental protection, resource conservation and climate protection.

We also advise our clients and partners in strategic and conceptual issues, delegate development aid workers and place integrated and returning professionals. Advanced training of specialist personnel is an essential part of our services. Besides cooperation in the development field, we offer young people an opportunity to acquire professional
experiences worldwide. Exchange programmes for young professionals are the foundation for successful careers in national and international labour markets.

**GIZ’s Clients**

The German Federal Ministry for Economic Cooperation and Development (BMZ) is GIZ’s key client. Furthermore, GIZ also operates on behalf of other German ministries, federal states and communities as well as public and private sector clients both at home and abroad.

We cooperate intensively with the German private sector and contribute to promoting meaningful synergies between development and foreign trade activities. Long-standing experiences with alliances in partner countries and in Germany are important pillars in the field of business, sciences, culture and the civil society. GIZ operates in more than 130 countries. In Germany the enterprise is represented in almost all federal states. GIZ has registered offices in Bonn and Eschborn.

**International Leadership Training (ILT)**

GIZ offers a demand-driven portfolio of diverse education formats to promote leadership skills. Promoting self-learning competence and developing conceptual, networking and anticipatory thinking are characteristic features of all these formats which empower participants to assume responsibility for development processes. The International Leadership Training (ILT) is the format with the largest number of participants. The modular course design of ILT programme “TVET, Climate Change and Green Jobs”, comprises vocational preparation in the participants’ home countries and a training period in the Republic of Korea. Here the programme focus is on specific experiences within the “Green Economy” and catch-up development in the Asian region. This part is followed by a practical eight-month technical face-to-face period in Germany, including a two-month internship giving the participants a chance to combine theoretical knowledge and practical experiences. On-the-job opportunities during the transfer phase to implement the transfer project round off the ILT.

Competences cannot be taught. They can only be acquired by each individual and must be consolidated by combining knowledge, skills, experiences and values. Sustainable success of competence-driven further training is closely linked with the learning environment, which sends positive signals fostering the learning process.

To this end, Germany and Korea provide an excellent learning environment as regards their technological, economic and societal background. The very heart of the ILT is the integration of the participants in the labour process of specialised institutions and enterprises in Germany for several months. This internship module provides valuable impetus for future assignments and successful networking with German business partners.

A good command of foreign languages is an essential factor for success. For this reason the ILT programme “TVET, Climate Change and Green Jobs”, starts with a preparatory English course in the participants home countries that will be continued in Germany. In addition, a compact German language course is also offered.

Since 2005, we have performed the International Leadership Training every year in more than 20 sector- and country-specific course designs for approximately 400 participants. Our partner organisations abroad propose applicants for the ILT; most of them are graduates from institutions of higher education and have two years of professional experience.

GIZ selects potential holders of scholarships according to ILT criteria. ILT participants and their employers agree on a manageable change project which they will work on in Germany. After the participants’ stay in Germany, i.e. during the following transfer phase, GIZ offers on-the-job consultancy to implement the transfer projects.

GIZ attaches great importance to promoting interdisciplinary and intercultural exchange between ILT participants. As early as during their training period, several ILT classes work together utilising GIZ’s training platform Global Campus 21. Assuming sole responsibility, ILT graduates work together in network projects within GIZ’s Alumni Community.
TVET, Climate Change and Green Jobs

It is one of the major challenges of the 21st century to prevent climate change and its impacts such as rise of sea level and flooding in some areas and extreme droughts and desertification in others. Climate change is caused by emissions of CO2 and other so-called greenhouse gases all around the world. As much as 80% of these gases occur when fossil fuels are mined, converted and burnt. Therefore, one of the key tasks of the 21st century is to use energy and resources more efficiently and to employ renewable resources wherever possible.

Technical Vocational Education and Training (TVET) plays an essential role in preventing climate change since it is the skilled workers and experts who deal with energy and resources in their jobs and at their workplaces efficiently and sustainably or not. Efficient use of energy and resources on the job is not only the task of specialists, but of every employee. So, related issues have to be implemented in training regulations, in the profile and equipment of vocational training centres, in initial and further training of teachers and instructors, and in training courses. This cannot be done by merely transferring best practices from one country to another, but with consideration of relevant developments and trends (technical, economic and social), needs and interests of stakeholders as well as characteristics of the respective country or region.

Although many things are still to be improved and implemented in a more holistic manner, Germany has a lot to offer to learn from. In Germany, green economy is booming. More than two million jobs have been created in this sector. The highest growth rates can be found in the segment of renewable energies. In 2010, almost 367,000 people were employed in manufacturing, operation and maintenance of renewable energy facilities, the supply of biogenic fuels, and in jobs financed by public and non-commercial funding. The number of people employed has thus more than doubled since the first systematic estimate for 2004 (160,500). Biomass (a total of 122,000 jobs) and solar energy (120,900 jobs) contributed about one third each to gross employment. They were followed by wind energy with just under 26% (96,100), geothermal with about 4% (13,300) and hydropower with 2% (7,600). Publicly funded research and administrative jobs account for a share of about 2% in gross employment. In the renewable sector more than 80% of people employed have completed vocational training - the average for all industrial sectors in Germany is just below 70%. These figures show: Key to this success story are the well-trained workers and the consideration of the economy’s requirements for green skills on all levels of the national TVET system.

By means of capacity building in the fields of curricula development, facility and institution management for training and promoting green jobs GIZ aims at contributing to fostering green growth in Laos, Vietnam and Indonesia. It is vital to equip TVET institutions of these countries with well-trained staff who is able to apply their knowledge and skills gained in Germany, who can qualify further people, set up train-the-trainer programmes and build professional networks to further promote this greening process. How this is done in detail, how this integration is managed and how it works in practice are issues of the ILT programme “TVET, Climate Change and Green Jobs”.

Target group
The training programme addresses TVET experts with technical qualifications and work experience in the fields of waste water management and supply, renewable energies and energy efficiency in construction. They have responsibilities on different TVET levels, particularly as TVET planning experts, curriculum developers, managing staff in colleges and other vocational training centres, as vocational teachers and instructors, university lecturers in teacher training, experts and managers in ministries, authorities, energy suppliers, energy agencies and research institutes, or as human resource personnel in companies. They have a university degree or a similar qualification and have already several years of experience in their field of work.

Objectives
At the end of the training the participants will be able to prepare forecasts and derivations in relation to new qualification requirements particularly for the Green Economy sector and to conceive, plan and implement relevant qualification profiles, curricula and models for implementing them in TVET. In their future jobs working as experts and multipliers the participants will contribute to initiating and organising change processes in their institutions and environments.

In particular, participants will

→ acquire in-depth knowledge of fundamentals, theories and structures of TVET for sustainable development,

→ study various methods for training needs analysis and curriculum development and apply them to specific topics in selected environmentally relevant business sectors,
→ develop concepts for and adapt training materials to the needs of specific target groups,
→ plan and implement green campus concepts and quality criteria,
→ develop a multiplication, transfer and training system for “Train-the-Trainer” geared to local and regional demand,
→ effectively utilise and arrange networking with partner organisations on national and transnational level, and
→ pass on to local multipliers the knowledge and skills acquired in vocational training in the field of “Climate Change and Green Jobs”, e.g., by developing a transfer project.

Transfer project
Transfer projects are a key element of training aiming at implementing and spreading the acquired knowledge in the participants’ institutions in their home countries. Transfer projects are individual in nature designed to overcome (development) obstacles or introduce innovations within their organisations. With regard to scope, time required and scope of responsibility, the participants will be enabled to cope with the task. The projects are designed in Korea and Germany and after completed advanced training they will be implemented and further developed in the relevant home countries.

Structure
The International Leadership Training (ILT) is subdivided into three phases: preparation, training and transfer. In the preparatory phase the participants perform a content analysis of existing activities, policies and development goals in relation to climate change and green jobs in Indonesia, Laos and Vietnam. Furthermore, within a time frame of four to six weeks prior to programme start-up, the participants deepen their knowledge of English. Subsequently, the nine-month technical training course commences. It consists of six modules which are supported by up to four seminars and accompanying tutorials.

Module 1: Introduction to Green Growth and Green Jobs
Module 2: Training Needs Assessment
Module 3: Didactics and Curricula Development
Module 4: Internship
Module 5: TVET Management approaches to establish “Green Campus” Concepts within Institutional Development of TVET Providers
Module 6: Transfer Project

The first phase of face-to-face training lasting six weeks takes place in Korea. During this phase the focus of training is on disseminating fundamentals in the fields of sustainable development and green skills (Module 1), training needs assessment (Module 2) and curricula development (Module 3). The ILT programme’s second phase of face-to-face training lasting 7.5 months takes place in Germany. This second phase also comprises eight weeks of practical training (internship) at a vocational school or in an enterprise. Besides deepening and applying the fundamentals (Modules 2 and 3), in this phase priority is given to the development of concepts for sustainable design and development of vocational training institutions (Module 5). By preparing a transfer project, the participants have an opportunity to prove their learning progress in all five areas. On completion of the face-to-face training phase the participants will implement the transfer project within their home institutions.
## Schedule

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<tr>
<th>Period</th>
<th>Place</th>
<th>Content</th>
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<tbody>
<tr>
<td><strong>Preparatory phase</strong></td>
<td></td>
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<tr>
<td>until November 2012</td>
<td>Indonesia, Laos, Vietnam</td>
<td>Selection workshops</td>
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| until February 2012     | Indonesia, Laos, Vietnam | English language course  
Deepening the knowledge of English, country specific analysis of green growth strategies and demands |
| **Training phase**      |                        |                                                                         |
| Feb. 26 – April 5, 2013 | Seoul, Korea           | Technical studies, Part I  
Module 1: Introduction to Green Growth and Green Jobs  
Module 2: Training Needs Assessment (foundations)  
Module 3: Didactics and Curricula Development (fundamentals) |
| April 8 – April 12, 2013| Saarbrücken, Germany   | Entry module:  
Programme presentation and introduction |
| April 15 – May 24, 2013 | Magdeburg, Germany     | Technical studies, Part II  
Module 2: Training Needs Assessment (implementation)  
Module 3: Didactics and Curricula Development (implementation)  
Module 4: Preparation of the Internship  
Module 6: Transfer Project |
| May 27 – July 26, 2013  | Various places, Germany | Module 4: Internship |
| July 29 – Nov. 1, 2013  | Magdeburg, Germany     | Technical studies, Part III  
Module 4: Post-Processing of the Internship  
Module 5: TVET-Management approaches to establish “Green Campus” Concepts within Institutional Development of TVET Providers  
Module 6: Transfer Project |
| Nov. 4 – Nov. 15, 2013  | Berlin, Germany        | Final module  
incl. evaluation and festive farewell ceremony |
| **Transfer phase**      |                        |                                                                         |
| November 2013 – April 2014 | Indonesia, Laos, Vietnam | Transfer projects  
in home country, alumni programmes and networking |
Module descriptions

Module 1

Title
Introduction to Green Growth and Green Jobs

Module Objectives
(Professional competences incl. 20% key competences):
The participants
- are familiar with currently existing policies, strategies and concepts on green growth, green skills and green jobs;
- understand contexts and relationships between green jobs within green growth strategies;
- understand the relevance of the development of approaches of green jobs for employment, economic and social development;
- are aware of political and social fundamentals in the sustainable development debate with special consideration of the situation in their home countries;
- analyse and assess existing situations and demands for development of green skills and green jobs in their home countries.

Contents
Development and Climate Change
- Links between climate change and development
- Political debate about sustainable development
- Concepts of climate and environmental protection
- Accelerating innovation and technology diffusion – contexts for TVET
Green Growth and Green Jobs
- Definition and historical development of sustainability
- Green economy principles and strategies
- Green products and markets
- Energy complex in Korea
- Green jobs and green skills
- Qualification profiling
TVET in Sustainable Development
- Basic approaches to include concepts of sustainable development in TVET
- Contexts between TVET for SD for employment generation
- Challenges for curricula development and consequences for changes in TVET teacher training

Module 2

Title
Training Needs Assessment

Module Objectives
(Professional competences incl. 20% key competences):
The participants
- are familiar with different methods of training needs assessment
- apply methods of TNA
- assess training needs and develop qualification objectives in selected green jobs
- draw conclusions about the link between TNA results and learning objectives
- derive learning objectives based on TNA results

Contents
Methods to Analyse Qualification Demands
- In-company production processes
- Objectives of modern TVET
- TNA methods/instruments to collect and quantify data about qualification demands, esp. function analysis and DACUM
- Development of learning objectives
Application of TNA Methods in Selected Occupational Areas Relevant to Green Jobs
- Structuring of work processes
- Elaboration of qualification profiles
- Derivation of employees’ competences and potentials
- Target performance comparison
- Qualification needs analyses of “green jobs” in the fields of water supply and waste water management, renewable energies and energy efficiency in the construction sector.

Module 3

Title
Didactics and Curricula Development

Module Objectives
(Professional competences incl. 20% key competences):
The participants
- know different approaches to curricula development
- apply methods and quality criteria of performance measurement and evaluation
- transfer learning objectives based on TNA into curricula and instructional designs
.compare and apply different forms of self-regulated learning
.use different learning and teaching media
.plan, organise, realise and evaluate work-process and project-oriented learning.

Contents

Foundations of Didactics and Curricula Development
- Didactic models and concepts
- Methods of Curriculum development
- Modular versus traditional curricula
- Learning objectives and learning domains
- Learning and teaching media, e.g., poster presentation
- Learning assessment and performance evaluation

Development of Curricula for selected Green Jobs
- Training programmes for selected green jobs in the field of water supply and waste water management, renewable energies and energy efficiency in the construction sector on the basis of a previous TNA
- Action-oriented learning and teaching methods, esp. role play, simulation game, case study, open space method, future workshop, project and guidance script method
- Development of learning and teaching media, e.g., videos and virtual learning environments

Module 4

Title
Internship

Module Objectives
(Professional competences incl. 20% key competences): The participants
- are familiar with German company culture (incl. work organisation, values, norms, intercultural aspects)
- analyse structures, training and course planning processes of their internship institution
- prepare and apply observation tasks for strategic reflections on work processes
- reflect structures and processes of vocational training and integration of SD into practice of vocational training processes
- analyse concepts of vocational education and training on the basis of theoretical models and are able to compare and evaluate them in real work environments
- apply theoretical concepts of TVET in green jobs by reflecting practical experiences
- present their reflections in front of a professional audience.

Contents
- Cultural stereotypes and intercultural characteristics
- Analysis of company structures and their training processes
- Evaluation methods
- Quality assessment
- Work planning and organisation
- Application of green technologies
- Reflection of experiences in a report
- Presentation of the reflection results

Module 5

Title
TVET Management approaches to establish "Green Campus" Concepts within Institutional Development of TVET Providers

Module Objectives
(Professional competences incl. 20% key competences): The participants
- know about the concept and the fields of action of greening TVET institutions
- are familiar with requirements on learning media, workshop design and equipment in the relevant occupational fields
- have a knowledge base to develop facility plans for a TVET institution to put green TVET training into practice
- know different management systems
- are able to identify the relevant skills requirements of their staff and to develop skills development plans
- are familiar with concepts and examples of involving people in greening processes of their TVET institutions
- are able to establish co-operation with regional companies that offer potential learning sites.

Contents
School, Campus and Institutional Management
- Concept and criteria of greening TVET institutions
- Developing a vision of greening TVET institutions and strategic development goals with regard to Participants’ sending institutions
- Relevant fields of action with regard to energy and resource efficiency, renewable energies and the sectors represented in the seminar on local, regional and national level
- Quality management systems, environmental management systems, occupational health and safety systems and integrated management approaches.
Implementation of Green Campus Concepts
→ Planning, development and establishment of training workshops, laboratories and equipment for energy and resource efficiency and renewable energies in TVET institutions
→ Consideration of safety and accident prevention regulations
→ Technical and media equipment
→ People-oriented greening change management concepts
→ Green communities and learning regions.

Module 6
Title
Transfer Project

Module Objectives
(Professional competences incl. 20% key competences):
The participants
→ reflect project management in changing economic and education processes and use project management in these contexts
→ describe different roles and functions in a project
→ plan, organise, lead and evaluate professional projects
→ present their project in front of a critical professional audience
→ give constructive feedback on transfer projects to other TVET experts;
→ develop ideas and plans for transfer projects in groups;
→ combine reflections and experiences made with their transfer projects during seminars and internships.

Contents
→ Changing work and company processes
→ Basic terms and steps of project management
→ Project cycle
→ Definition of objectives and project planning
→ SWOT, stakeholder and project conditions analysis
→ Project structure plans, work packages, budget planning
→ Project documentation
→ Presentation techniques and feedback rules

A variety of teaching methods

The advanced training course consists of various teaching and learning formats.

Seminars
Seminars aim to engage participants in scientific work on theoretical and practice-related questions in a pro-active exchange between teachers and learners. In addition, an important element of seminars is learning by teaching, i.e. deepening the knowledge acquired by disseminating it to other members of the study group.

Tutorials
Tutorials are held to deepen fundamental methods, skills and competences. Furthermore, they provide an opportunity to respond in more detail to questions and ideas of individual participants.

Colloquia
Colloquia offer a forum for in-depth scientific dialogue between teachers and learners by focusing on selected problems. In the scope of the ILT programme “TVET, Climate Change and Green Jobs”, colloquia provide opportunities to advance and thoroughly discuss transfer projects.

Technical excursions
Excursions offer a chance to visit specific organisations, collect information and gather hands-on experience on site. Potential destinations of excursions include, among others, Trinkwasserversorgung Magdeburg TWM (Magdeburg Water Utility), SMA Solar Technology, Oberstufenzentrum Tiefland (Comprehensive Technical &Vocational School) and the World Skills Vocational Training Fair. To ensure maximum possible learning gains from these excursions, they will be subject to intensive preparation and follow-up.

Project seminars
Projects aim at developing comprehensive capabilities and skills to enable participants to do scientific work independently and come up with practice-oriented solutions to holistic problems. In particular, projects help acquire the competence to carry out work processes from the concept phase to implementation and evaluation.

Internships/practical lab work experience
Due to the hands-on work experience gained during internships/practical lab work, they help consolidate knowledge gained in course work and develop practical skills. In general internships provide opportunities to critically test and compare various solution strategies employed to solve vocational problems.
Countries at a glance

Indonesia

Analysts worldwide consider Indonesia a consolidated democracy with promising economic prospects. The country’s macroeconomic data have been excellent for several years. Indonesia is one of the largest and most attractive domestic markets in Southeast Asia. In the last 10 years the country has developed from a rather centrally controlled system with a planned economy into a market-driven economy, although with quite strong elements of state intervention still.

Indonesia has vast natural resources, including natural gas, coal, petroleum, tin, nickel, copper, bauxite, and gold. Late in 2004 Indonesia became a net crude oil importer and left OPEC in the meantime. However, Indonesia is a net exporter of natural gas and coal. The country has large timber reserves and is a major exporter of agricultural products, including rubber, palm oil (the world’s largest exporter), cocoa, tea, coffee, and tobacco. Furthermore, the labour-intensive textile, clothing, shoe and furniture industries are important business sectors. It should be underlined that two thirds of the country’s export performance is generated by the informal sector. Agriculture still is a dominating element in Indonesia’s economy.

The archipelago is highly vulnerable to climate change and the third largest emitter of greenhouse gases mostly through energy. That is why the Government pledged to reduce the country’s greenhouse gas emissions by 26% until 2030 – although Indonesia is not obliged by the Kyoto Protocol to do so. Indonesia is also participating in the ASEAN Energy Awards programme, especially concerning energy efficiency in buildings and industry. The country’s potential for using renewable energies is tremendously high. Indonesia disposes of 40% of the world’s geothermal resources, representing some 27,000 megawatts (MW). Its location on the equator also offers very considerable solar power resources leading to 4.8 kilowatt-hours per square metre per day. Off-grid, solar home systems currently dominate the market. Wind power in Indonesia is best exploited through offshore systems because of the lack of wind this close to the equator. As an island nation, the country also has significant potential for hydro and marine power. Its potential is estimated at 75,600 MW. Another significant potential lies with Indonesia’s biomass resources which are estimated at almost 50,000 MW. However, so far only 5% of the available energy resources are being used. Bio-oil as a representative of biofuels has been identified as the renewable energy focus in Indonesia. Biofuel development alone could create some 3.5 million jobs.

Under the country’s President Yudhoyono the education sector has gained increasing attention in the last few years. The country strives to further improve the quality of education, but it is also committed to providing access to educational institutions for all people throughout the country. A law adopted in 2003 stipulates that 20% of the national budget is to be invested in education. This goal was reached for the first time in 2009.

Based on the information provided by the German Federal Ministry of Education and Research (BMBF), Indonesia’s educational system can be described as follows: Indonesia has compulsory education for the 6-to-15 year-old population with six years of primary education for children aged 6 to 12 and three years of junior secondary education for the age group 13 to 15 years. From high school age to the age of about 18, students can choose from a variety of subjects and courses of study leading to a variety of degrees and leaving certificates. In principle, lessons are held in the Indonesian language, however, in the first three years a regional language may be preferred. If this is the case, this regional language will continuously be taught besides Indonesian. English is a compulsory subject starting in Grade 4.

In the past the Government’s focus was increasingly directed at motivating young people to attend school longer, e.g., by offering various types of support/grants/scholarships. Although more than 90% of all students complete compulsory education, many are forced to start working to earn their livelihood.

The Ministry of National Education is responsible for approximately 75 state universities and more than 1,000 private universities. The institutions of higher education – state-run, private or religious - offer primarily Bachelor’s
and Master’s degrees, sometimes PhD courses. In addition, Open Universities offering distance learning degree courses are gaining importance.

In the field of vocational education, secondary schools tailored to the needs of various sectors as well as individual institutions are available specialising, for example, in administration or medical engineering. These schools are subordinated to the competent ministries. The number of vocational qualifications has increased in recent years while illiteracy sharply declined.

References:


Laos

Since the mid 1980s, Laos has pursued a policy of decentralising control and encouraging private enterprise resulting in growth rates between 6 and 8%. The “Millennium Development Goals” of the United Nations have been integrated in the National Socio-Economic Development Plan (NSEDP) for growth and poverty alleviation. The Government hopes to reach the most important MDGs by 2015 and is committed to have Laos join the circle of developed countries by 2020.

Approximately 75% of the population are employed in agriculture generating some 30% of the gross national product (GNP). Recent years have witnessed a clear shift from subsistence agriculture to an industrialised type of agriculture. Mining, energy generation, light industry, and tourism have become important drivers of the economy leaving their mark increasingly on the country’s economic development (industry including mining and the service sector contribute to the GNP with 27% and 40%, respectively). Major exports include mineral raw materials (copper, gold, iron ore), hydroelectricity, textiles, agricultural and timber and wood products.

The country’s population is very young offering great potentials. For this reason investments in education and training are particularly important. Increasingly foreign investors come to the country, investing, e.g., in the textile trade and service sector. Moreover, Laos is rich in natural resources. The Laotian Government launched a large-scale reforestation programme which aims to increase the forest stand from currently just under 40% to 70% by 2015. The country’s tremendous hydro-power reserves play an important role for the future; the same is true of ecotourism which could be further expanded.

One of the fundamental goals of the education policy pursued by Laos is to improve the country’s literacy rate, which is currently at about 69%. However, the situation is much better in the age group of the 15 to 40 year olds because in this group
the literacy rate is approximately 87%. According to UNESCO, every year some 83% of all boys and girls start primary school at the age of six. The Laotian school system is subdivided into twelve grades, including 5 years of primary school, followed by four years of lower-secondary school and three years of upper-secondary schooling. The language of instruction is Lao. English is the most important foreign language. Upper-secondary schools can either be schools offering general education or vocational schools. Students who have completed lower-secondary school may enrol in three-year vocational training. Children who have only completed primary school can participate in a four-year vocational training programme at special institutions. Furthermore, there are specialised technical schools/colleges providing three- or four-year programmes at stage II secondary level. When students have successfully passed the final exams at the end of stage II secondary level, they get a leaving certificate which is the basis for access to a university, college or a private educational establishment. For students enrolled at a university it takes about 5 to 7 years to earn a Bachelor’s degree; for a Master’s degree students have to add another one and a half to two years of study and for obtaining a PhD at least three more years of study are necessary. Furthermore, specialised courses lasting three to five years are also available.

In Laos’ vocational education, several diverse training programmes are available at upper-secondary level: Courses lasting less than 6 months, advanced training for professionals lasting up to 3 years, and two- to three-year certificate courses or courses leading to a qualification degree. Furthermore, there is a large number of vocational education and training centres offering a variety of vocational training programmes in a number of different subject areas. In recent years the Government of Laos has taken a host of measures to further upgrade and expand the education system, particularly the system of vocational training and to increase equitable access to these schools for a larger percentage of the population.

References:


Vietnam

Vietnam has set itself the ambitious goal to reach the status of an industrialised country by 2020. Since the mid-1980s the country has pursued a policy of opening its economy. The country’s economy is developing gradually from a planned to a market-driven economy. In the meantime a rigorous reform programme and persistent investments in infrastructure, institutions and qualification measures have started to pay off.

For several years Vietnam has been one of the most dynamic and fastest growing economies in the world. The country is well positioned to reach all Millennium Development Goals by 2015. For example, the Government’s policies pursued in the field of economic and social development to combat poverty resulted in remarkable progress. The country succeeded to reduce the percentage of extremely poor people from 58% in 1993 to 13% in 2008. In 2010, the threshold of an annual income per capita of 1,000 US dollars was exceeded. Now the World Bank classifies Vietnam as one of the so-called “Middle Income Countries”.

Vietnam is rich in raw materials, including petroleum, natural gas, bauxite, coal, and iron ore. To date these resources are only developed to some extent. The country’s agricultural production comprises a wide range of products. Vietnam is among the world’s largest exporters of rice, coffee, cocoa, pepper, and cashew nuts.

Vietnam is highly prone to climate change. Since the 1960s, temperature means in Vietnam have increased by 0.5 to 0.7°C. Due to droughts, floods or untreated industrial and construction waste the environment is further strained. As regards the use of renewable energies, solar, wind and hydropower play a major role in the country’s sustainable development. Solar radiation is said to be between four and six Kilowatts (KW) per hour in the Southern and Central regions of the country. In these particular regions, rural electrification is rather advanced through grid extension which facilitates
feeding solar power generated electricity into the grid. As the country is located in the monsoon wind zone, the total wind energy potential could be up to 713,000 MW. Hydropower currently accounts for around 40% of the Vietnamese energy supply. The biomass potential is still largely untapped; geothermal energy does also not receive due attention in Vietnam’s renewable plans. The potential for more biofuel generation is limited because arable land is increasingly limited due to urbanisation, industrialisation and the consequences of climate change. By 2012, 5% of Vietnam’s renewable energy potential has been used. The Vietnamese Government sets itself the target to reach 11% by 2020.

The education system is subject to continuous reform. In recent years clear progress has been made in this area. In the meantime the literacy rate could be increased to more than 93%. The Ministry of Education has launched an “Education Campaign” aimed to further improve education in the country. To this end, first measures granted the higher education institutions more autonomy by decentralising curricula regulations and extending their room to manoeuvre. In addition, higher education institutions were made accountable for their financial situation. Furthermore, the higher education system should be increasingly opened to international cooperation.

Based on the information provided by the German Federal Ministry of Education and Research (BMBF) and the Federal Institute for Vocational Education and Training (BIBB), Vietnam’s educational system is structured as follows: The Vietnamese education system comprises 12 years of general education, subdivided into two levels, i.e. primary level (Grades 1 to 5), secondary level I (Grades 6 to 9), and secondary level II (Grades 10 to 12). Primary education is compulsory for all children. Entrance exams have to be taken to continue education at upper secondary school. On completion of secondary level II exams must be passed to prove aptitude for higher education (“A” levels or technical diploma).

Universities offer a number of full-time courses lasting from 4 to 6 years. Students can also select from various college programmes lasting 3 years. Many institutions of higher education offer part-time, intensive and distance learning programmes. In general, depending on the field of study undergraduate studies lead to a Bachelor’s degree or diploma while postgraduate studies are often completed with a Master’s or doctorate degree (PhD).

Vocational qualification can be obtained either at the country’s Vocational Training Centres (VTC), in Vocational Training Schools (VTS) and Secondary Technical Schools (STS) or Professional Secondary Schools (PSS). Vocational Training Centres – there are approximately 150 – tailor their courses to the economic needs of the region. They primarily offer short-term training courses. Most courses last three months, however, some run over a period of one year. There are courses which are structured into several modules, e.g., for electricians, running over a period of 9 months. A number of module course programmes are interrupted by periods of employment so that they may last even several years. Vocational Training Schools primarily address future skilled workers and other technical professionals. Depending on a person’s technical knowledge and previous general education, training programmes may last from about 1 to 3 years. Approximately 226 recognised trades/occupations are offered. Secondary Technical Schools provide full-time courses for future middle management personnel. There are Vocational Training Schools specialised, for example, in teacher training, medicine and technical disciplines with a focus on training primary school teachers, caring staff – trained beyond the level of nurses – and professionals in the fields of business, finances, culture and arts (crafts).

References:

ILT Participants
Participants from Indonesia

Yendi Kesuma ALAM
Age: 28 (born in 1984)
Employer: National Vocational Training and Development Centre BBPLKDN (NVTD), Bandung
Position: Instructor of mechanical technology
Education: Diploma in Mechanical Engineering (Refrigeration and Air Conditioning)
Competences: CNC Machine (Turning & Milling), CADCam Laboratory (CIMATRON)
Learning objectives/transfer project: Application of air conditioner wastewater as an aquadest substitute
Languages: Indonesian, English, German (basics)

Azis Abdul AZIZ
Age: 34 (born in 1978)
Employer: State Vocational School 2 Tasikmalaya (Light Vehicle Engineering Department), Tasikmalaya
Position: Chief of engine maintenance and repairing workshop, instructor of maintenance and repairing of electrical vehicles, student internship programme advisor
Education: Bachelor of Mechanical Engineering Education
Competences: Workshop management
Learning objectives/transfer project: Cassava as an alternative energy source for motor vehicles
Languages: Indonesian, English

Yusi ARISANDI
Age: 34 (born in 1978)
Employer: National Vocational Training and Development Centre PPPPTK BOE / VEDC, Malang
Position: Trainer and head of the study programme “Environmental Management Technology”
Education: Degree in Chemistry, degree in Environmental Chemistry, degree in Teaching
Competences: Competence mapping, regional networking
Learning objectives/transfer project: Use of wastewater from PCB etching with the solidification technique for economically and ecologically friendly construction
Languages: Indonesian, English

Dela CHAERANI
Age: 29 (born in 1984)
Employer: State Vocational School 1 Kota Bekasi, Kota Bekasi
Position: Teacher, secretary of the multimedia department
Education: Bachelor of IT Management
Competences: Computer science
Learning objectives/transfer project: Planning, building and maintaining a green roof to improve the overall energy efficiency within a building
Languages: Indonesian, English
Soni FAHRURI
Age: 35 (born in 1979)
Employer: House of Representatives of the Republic of Indonesia, Jakarta
Position: Expert staff of renewable energy, energy data analyst and supervisor of ministries and companies
Education: Bachelor of Marine Engineering, Master of Coastal Management and Engineering
Competences: Legislation, budget review
Learning objectives/transfer project: Optimization of the energy mix for electricity supply in 2030 and 2050
Languages: Indonesian, English

Ajen KURNIAWAN
Age: 27 (born in 1986)
Employer: Ministry of Manpower and Transmigration Republic of Indonesia (Section for Productivity and Entrepreneurship Cooperation Development), Jakarta
Position: Analyst for management materials training program
Education: Bachelor of English Language and Literature, Master of Management
Competences: Microsoft Office, green productivity and material flow cost accounting, food safety management and food traceability, energy efficiency
Learning objectives/transfer project: Management of office spaces and its used materials (reduce, reuse, recycle)
Languages: Indonesian, English

Nur FARIZAL
Age: 31 (born in 1982)
Employer: National Vocational Training and Development Centre BBPLKDN (NVTDN), Bandung
Position: Head of programmes, instructor of automotive technology
Education: Bachelor of Engineering
Competences: Occupational competency testing
Learning objectives/transfer project: Development of National Standard Competencies (SKKNI) and skill qualifications for green jobs, training of trainers
Languages: Indonesian, English

Setyoko PRAMONO
Age: 34 (born in 1978)
Employer: Ministry of Industry (Central for Industrial and Educational Training), Jakarta
Position: Trainer for government and small-and-medium-sized enterprise employees
Education: Bachelor of English Literature, Master of Human Resource Management
Competences: Modern teaching devices, SME diagnosis consultancy
Learning objectives/transfer project: Awareness raising for energy efficiency in industries
Language: Indonesian, English, German (basics)
Muhammad RUSMAN  
Age: 41 (born in 1971)  
Employer: State Vocational School 2 SombaOpu, Sungguminasa  
Position: Teacher  
Education: Bachelor in Machine Technology,  
Master of Vocational Technology  
Competences: Welding, business consultation  
Learning objectives/transfer project: Use of wind energy for air circulation in classrooms  
Language: Indonesian, English  

Phouvieng LANMISAY  
Age: 37 (born in 1975)  
Employer: Dongkhamxang Agriculture Technical School, Vientiane  
Position: Head of Forestry Department, head of School Department, teacher and trainer of forestry, DATS consultant council, QA board of DATS  
Education: Bachelor of Science in Forestry, Master of Science (Parks and Recreation)  
Competences: GPS, Hypsometers, Compass, set of carpentry tools, field work, nursery maintenance, chain saw machine  
Learning objectives/transfer project: Training of co-workers and students about renewable energies; modern technologies and techniques for green jobs; improvement of work safety and health; improvement of the water supply system of DATS.  
Languages: Lao, English  

Saythong INSARN  
Age: 32 (born in 1980)  
Employer: Lao-German Technical School, Vientiane  
Position: Teacher for theory and practice of welding  
Education: Diploma in Welding and Plumbing, Bachelor of General English  
Competences: MIG/ MAG welding machine, TIG and ARC welding machine  
Learning objectives/transfer project: Development of a rice husk stove using stainless or mild steel  
Languages: Lao, English  

Bountong XAIYAVONG  
Age: 29 (born in 1983)  
Employer: Vocational Education Development Centre, Vientiane  
Position: Head of Curriculum, Development Unit, lecturer in teacher education  
Education: Diploma of Automotive Technology, Higher Diploma of Auto Mechanic in Vocational Teacher Education  
Competences: Curriculum development, training, repairing of cars and motorcycles  
Learning objectives/transfer project: Building awareness for sustainable water supply and waste water treatment, inclusion of environmental management in vocational curricula, building cooperations between enterprises and vocational institutions  
Languages: Lao, English, Thai
Participants from Vietnam

Huyen DANG THI
Age: 29 (born in 1983)
Employer: National Institute for Vocational Training, Hanoi
Position: Researcher
Education: Engineer of Food Technology, Master of Business Administration
Competences: Curriculum development, instructional designs and facilities, job analyses, establishment of skills testing center and operation and management testing system
Individual learning objectives/transfer project: Guidelines for training needs assessment for green jobs, development of curricula for green jobs
Languages: Vietnamese, English

Minh LE HONG
Age: 32 (born in 1981)
Employer: Construction Technical College 1, Hanoi
Position: Teacher of technical drawing, building design and construction supervision, dean’s specialist and chief architect
Education: Diploma of Architectural Design, Master of Architecture
Competences: Computer, GPS locator, Total station, construction materials testing laboratory supervision
Learning objectives/transfer project: Training of students, co-workers and teachers about renewable energies in construction, development of a web-based learning community for sustainable construction
Languages: Vietnamese, English, French

Dong DOAN DUY
Age: 26 (born in 1986)
Employer: National Institute for Vocational Training/Research Center of Training Development and Experiments, Hanoi
Position: Researcher
Education: Engineer of Urban Forestry, Master of Education Management
Competences: Curriculum development, instructional designs and facilities, job analyses, pilot study design
Learning objectives/transfer project: Positive solutions to promote the development of “Renewable Energy and Energy Efficiency”
Languages: Vietnamese, English

Dinh Hai NGUYEN
Age: 34 (born in 1979)
Employer: Construction Technology College I, Hanoi
Position: Head of the Faculty of Water Supply, trainer/lecturer, responsible for water supply and sewerage plants
Competences: Photovoltaics, installation systems, wastewater treatment system and water chemistry analysis lab for training students
Learning objectives/transfer project: Development of a training for teachers in the drainage sector, establishment of documentation standards, learner-centred curricula, modern learning technology
Languages: Vietnamese, English, German, Filipino
Ngoc Quynh Nhu NGUYEN
Age: 23 (born in 1989)
Employer: Ho Chi Minh Vocational College of Technology, Ho Chi Minh
Position: Lecturer in Faculty of Environment Science and Labour Safety
Education: Engineer of Environmental Technology
Competences: Pilot model, practical training equipment
Learning objectives/transfer project: Renewable energies in TVET, monitoring energy efficiency, development of training facilities for solar energy
Languages: Vietnamese, English

Quang Khai NGUYEN
Age: 29 (born in 1983)
Employer: Ho Chi Minh Urban Drainage Ltd. Co, Ho Chi Minh
Position: Deputy Manager of the Research and Development Division
Education: Engineer of Environmental Technology, Master of Environmental Technology
Competences: AIIM search engine optimization, project management, management of sewer roads, waste water pumping stations and wastewater treatment plants, construction drawings
Learning Objectives/transfer project: Training about climate change, wastewater processing and environmental challenges
Languages: Vietnamese, English, French

Quang Phong NGUYEN
Age: 23 (born in 1989)
Employer: BA Ria Vung Tau Urban Sewerage and Development One Member Limited Company (BUSADCO), Vung Tau
Position: Technical expert
Education: Bachelor of Finance Marketing and Foreign Trade
Competences: AIIM search engine optimization, project management, management of sewer roads, waste water pumping stations and wastewater treatment plants, construction drawings
Learning Objectives/transfer project: Training about climate change, wastewater processing and environmental challenges
Languages: Vietnamese, English, French
KapItel

PFIFF – Internship Placement Centre

Practical training for young international professionals and executives in Germany

Every year, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH selects about 400 professionals and executives from developing and emerging countries to participate in the International Leadership Training (ILT) programmes. During their sojourn in Germany all programme participants get an opportunity to gain practical work experience during a ten-week internship, which forms an important element of the programme. Suitable internship placements are decisive for lasting success in International Leadership Training. Our core competences are in matching and monitoring:

We bring the right partners together. In addition, as competent partners with long-standing experience in this field we are always available as competent contacts for both participants and companies before, during and after the practical training period. High quality guided support and a final evaluation are key to the programme’s sustainable quality for both sides. Programme participants receive a government grant to cover their training in Germany. They also get their living expenses paid, have insurance coverage and get a temporary residence permit. In return, the participating German enterprises gain first-hand sector-specific information from the ILT programme participants and get a unique chance to establish direct contacts with foreign markets.

Expert Partners

The Department of International Cooperation which belongs to the Department of Vocational Education and Human Resource Development of Otto-von-Guericke University Magdeburg bears responsibility for organising the training modules and lending scientific support to the ILT programme “TVET, Climate Change and Green Jobs”. The Department of Vocational Education and Human Resource Development is located at the Faculty of Human Sciences. It has six chairs focusing on key research activities in vocational education and training, in-company education and training, technical didactics, didactics for business and administration, general technical education and its didactics, and general economic education and its didactics.

The department is one of three partners in the UNEVOC Centre “TVET for Sustainable Development”. This makes Magdeburg a member of the international UNESCO network for technical and vocational education and training which aims at improving and promoting TVET, especially in developing countries and with a focus on TVET for sustainable development. The objectives and activities of the UNEVOC Centre “TVET for Sustainable Development” include the development of vocational curricula, learning and teaching media, and education and training concepts for teachers, and to integrate them into practice and utilise them in a variety of ways.

The Department of International Cooperation represents Otto-von-Guericke University in the UNEVOC Centre. Its tasks include the development and implementation of international further training, international study programmes, and international cooperation and projects. The department’s staff members assume all kinds of research and teaching assignments in the context of development cooperation. It is financed by tuition fees, third-party funds and direct project revenues. The department supervises various master programmes which are carried out in cooperation with East-Asian universities and the Anglia Ruskin University in Chelmsford, United Kingdom. Furthermore, it contributes to a project focusing on training Chinese TVET management staff in order to build a national teacher and principal training system for middle and higher vocational schools in China.

The ILT participants from Indonesia, Laos and Vietnam are enrolled at Otto-von-Guericke University from April 15 to November 16, 2013 in the International Vocational Education master programme in the study profile Technical and Vocational Education and Training. They attend tailor-made seminars and tutorials which are solely designed to meet the needs of their specific backgrounds and demands.

The project team of the Department of International Cooperation is responsible for supervising and consultancy in relation to the transfer projects to be implemented in the participants’ home countries after their training in Germany. As part of the follow-up, they will also encourage and support knowledge transfer to the workplaces of the participants - which will especially happen through the transfer projects - by GIZ’s online platform Global Campus 21.
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