Workshop on

eLearning in Renewable Energy Higher Education in Africa

10 March 2016, Tlemcen Algeria

Workshop Report

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Executive Summary

The Africa-EU Renewable Energy Cooperation Programme (RECP), the Pan African University Institute of Water and Energy Sciences (including climate change) (PAUWES), and the University of Tlemcen jointly organized the international Africa-EU Symposium on Renewable Energy Research and Innovation from 8-10 March 2016 in Tlemcen, Algeria.

As a side event of the goals of the symposium, the United Nations University Institute for Environment and Human Security (UNU-EHS) and the RECP offered a workshop on eLearning in renewable energy higher education in Africa was organized on the last day of the three-day-symposium. The workshop aimed at presenting the first **findings of a mapping study** in order to inform about on-going initiatives related to eLearning at the African Development Bank (AfDB) and the African Union Human Resources, Science and Technology Division (AU-HRST) as well as to explore possible cooperation potentials for interested and like-minded partners. Lastly, the workshop aimed at involving participants in group work to identify challenges pertaining to eLearning in renewable energy in Africa and to translate these challenges into possible projects for further consideration.

The **workshop started** with a short introduction session setting the context of the event by the RECP, followed by three presentations on eLearning related to renewable energy and on-going initiatives in Africa with examples from the AfDB and the African Union.

In his presentation about the **role, potential and cooperation in the field of Distance Education in Renewable Energy Higher Education**, Dr. Erick Tambo from the United Nations University Institute for Environment and Human Security (UNU-EHS) presented the preliminary results of a study on the assessment of the status quo and the potential of distance education in renewable higher energy education in Africa. Aspects such as structure of the curriculum, approaches to educational technologies, funding mechanisms respectively sustainability models, among others, were presented and discussed. Impacts of donor-supported projects in Africa as well as lessons learnt from activities in distance education in Europe in the field of renewable energy were also presented and discussed.

Dr. Bakri Abdul Karim from the African Development Bank (AfDB) dwelled on the positive **contributions of ICT with regards to capacity-building and knowledge-sharing** at the AfDB. The eInstitute harvests the Bank's internal knowledge and transforms it into distance- learning material. The AfDB has identified various themes to be taught on the e-Institute, such as, for example, "How to tap Africa's Renewable Energy Potential?", "Renewable Energy Market Regulations in African countries", and "Skills and Technologies for Renewable Energy Development in Africa: current State and Prospects for the Future". The AfDB welcomes collaboration partners for the expansion of the eInstitute.

In the following, Lukman Jaji from GIZ/AU-HRST presented the development of the **Pan African University IT Network (PAUNET)**. PAUNET is a high-speed data-communication network to support the Pan African University's vision to create institutions of excellence which would constitute the bedrock for an African pool of higher education and research.

The **second part of the workshop** was based on a participatory model using facilitation techniques. The facilitated discussions aimed at engaging participants in the identification of ideas for possible projects including contributions, roles and responsibilities of potentially involved actors.

The Working Group I on *"Quality and Accreditation"* in eLearning for renewable energy proposed the following project ideas as an outcome of the group exercise, to be further developed: 1) Establishment of an international advisory board for E-Learning courses and 2) The standardization, harmonization, evaluation and regulation of the E-Learning programs including Lab Experiments.

The Working Group II on *"Content, Didactics and Lab Experiments"* proposed the following project ideas as outcomes of the group exercise, to be further developed: 1) Mapping of already existing Renewable Energy programs, 2) Identification of best practices in eLearning to develop strategies based on benchmark examples, 3) Collection of prime experiments in lab experiments in a face-to-face study setting in order to transform these into eLearning programs and 4) Inclusion of entrepreneurial and socio- economic curricular content.

The Working Group III on *"Change Management, Awareness and Networking"* proposed the following project ideas as outcomes of the group exercise, to be further developed: 1) Improving social acceptance of eLearning, 2) Usage of differentiated and targeted media techniques in order to attract different age groups for the common goal of eLearning, 3) Promoting basic ICT training in order to acquire the skills needed to explore the full potential of eLearning and 4) Identifying fields of mutual interest to build partnerships for eLearning in RE.

The **next steps** in order to commence the abovementioned projects require the development of a roadmap, which entails the project plan, the identification of funding sources and a strategy to form partnerships. Discussions on the projects will be continued on the PAUWES Community of Practice online social collaboration platform. The project ideas formulated by the participants emanating from the challenges identified could simultaneously be considered as **recommendations** for stakeholders respectively institutions seeking to make use of education technologies in Renewable Energy Higher Education in Africa.

Above all, participants appreciated the workshop as a networking opportunity on educational technologies and the setup of eLearning platform in the field of renewable energy with particular emphasis on African higher education. Further, the workshop allowed for joint brainstorming and identification of possible projects in the respective field to be taken up for concrete strategies and implementation. Lastly, the **workshop contributed** towards the progress of the discourse on the topic of eLearning in renewable energy in Africa, which is gaining significant importance in the aftermath of the Millennium Development Goals.

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1. Programmatic Context

1.1 Background: RECP and Africa-EU Renewable Energy Research and Innovation Symposium

The **Africa-EU Renewable Energy Cooperation Programme (RECP**) is a multi-donor programme that supports the development of markets for renewable energy in Africa. It was launched by more than 35 African and European Ministers and Commissioners under the Africa-EU Energy Partnership (AEEP). Among other goals, the RECP aims at contributing to the promotion of access to energy supporting sustainable economic growth and poverty eradication, within a sustainable development path. The RECP focuses on meso-scale renewable energy investments as these projects have substantial potential for increasing energy access and simultaneously provide local benefits. The RECP is implemented by the EUEI PDF, hosted by GIZ in Eschborn, Germany.

Building local capacities and promoting applied research are recognized to be essential pillars in the development, promotion, and dissemination of renewable energies in Africa. While an increasing number of academic institutions in Africa are dedicated to renewable energy research, the exposure to the international scientific community, an access to available support mechanisms and funds remain limited. Increased private sector participation, Africa-EU scientific cooperation and multi-sector collaboration are seen as crucial elements to boost renewable energy research in Africa.

In order to tackle the above mentioned issues, and to launch a scientific platform for Africa-EU renewable energy research cooperation, the RECP in cooperation with the Pan African University Institute for Water and Energy Sciences (PAUWES), University Abou Bekr Belkaid jointly held an international research symposium in Tlemcen.

The Objectives of the symposium were to:

- Foster the research dialogue between African and European renewable energy experts
- Promote Africa-EU academic networking and research cooperation
- Share information on available research cooperation platforms and support mechanisms

Symposium participants included a mix of African and European experts from universities and private research institutions, complemented by representatives from public sector, international organisations, business associations, and development partners involved in renewable energy research.

1.2 eLearning Workshop Context, Audience and Objectives

In line with the abovementioned objectives, a side event of the symposium was dedicated to the theme of eLearning in renewable energy higher education in Africa. Based on the currently conducted mapping study by the United Nations University on behalf of RECP on the topic of the "Role of Distance Learning in Renewable Energy Higher Education in Africa and Best Practices in Europe", a half-day workshop was organized on the third day of the Symposium.

The workshop aimed at presenting the first findings of the mapping study in order to inform about on-going initiatives related to eLearning at the African Development Bank (AfDB) and the African Union Human Resources, Science and Technology Division (AU-HRST) as well as to explore possible cooperation potentials for interested and like-minded partners. Lastly, the workshop aimed at involving participants in group work to identify challenges pertaining to E-Learning in RE in Africa and to translate these challenges into possible projects for further consideration.

The audience was made up of key stakeholders in the field of renewable energy from Africa, Europe and beyond, including project managers, renewable energy experts, private sector representatives as well as lecturers and PhD students. The majority of the participants are either managing an eLearning system in the sphere of renewable energy or envision embarking on it in the near future.

2. Workshop Presentations

Abbes Sebihi, GIZ Senior Advisor to PAUWES, warmly welcomed all participants and introduced as well as underlined the importance of the workshop's objective, which is to portray the scope of eLearning in RE with special emphasis on Africa and to find synergies and collaboration potentials for effective eLearning projects. Florian Lenz, EUEI PDF, took over and briefly introduced the RECP and its relation to eLearning. The welcome session was followed by a series of three presentations related to eLearning in RE in Africa. Subsequently, each presentation concluded with a short Question and Answer session.

2.1   Dr. Erick Tambo - Role, Potential and Cooperation in the Field of Distance Education in Renewable Energy Higher Education

At the core of the presentation delivered by Dr. Erick Tambo, Associate Academic Officer in the EduSphere Section of UNU-EHS, were the preliminary findings of the study "Mapping the Role of Distance Learning in Renewable Energy Higher Education in Africa and Best Practices in Europe". The study is being conducted in the framework of research which inter alia brings together African institutions or institutions engaged in Africa in the field of eLearning with special emphasis on renewable energies. The presentation started with a short introduction of eLearning including the clarification of general terminologies in this field, such as educational technologies or blended learning.

It continued with an overview of main actors engaged in eLearning in Africa at a national level and in Pan African institutions and networks. Dr. Erick Tambo then presented flagship initiatives in the field of eLearning, respectively donor- supported programs such as the African Virtual University, various activities and programs at the Commonwealth of Learning, as well as the Agence Universitaire de la Francophonie and their impacts.

The third part of the presentation introduced on-going eLearning projects, African and European universities which offer regular masters' programs in renewable energies and African universities which provide eLearning programs or courses related to renewable energy, as well as Open Content and Massive Open Online Courses (MOOCs), In this context, special attention was paid to the question how didactical approaches and components of a regular face-to-face master program could be enhanced using educational technologies. The final part of the presentation offered a brief illustration on educational technologies in the context of renewable energy higher education such as the use of online, live meeting software to support remote lectures, virtual experiments, remote labs to address the lack of practical exercises in the curriculum, etc. In this particular section, Dr. Erick Tambo emphasized that virtual and remote laboratories cannot substitute real experiments in labs but could help to mitigate infrastructure problems.

2.2   Bakri Abdul Karim – The AfDB, Capacity Building and eLearning

As the Manager of the Knowledge and Information Service Division at the AfDB, Bakri Abdul Karim commenced his presentation with the setup of the AfDB, its five areas of strategic focus and the importance of capacity building, including the category of ICT and knowledge sharing. "Light up Africa", "Feed Africa", "Industrialize Africa", "Integrate Africa" and "Improve Life in Africa" are the five areas of

intervention. Within this focus, the Bank identifies capacity development needs and designs and delivers learning events.

The presentation continued with the issue of how ICT is harnessed for capacity building and knowledge sharing. Virtual education is covered by the e-Institute. . As such, it harvests the Bank's internal knowledge for delivery in distance learning modes including eLearning, Mobile Learning and Blended Learning. Furthermore, this institute aims at developing the capacity of the Bank's staff and Member countries to use ICT to deliver training on the e-Institute Platform. Courses on renewable energy are planned for 2016.

The AfDB has identified various themes to be taught on the e-Institute such as, for example, "How to tap Africa's Renewable Energy Potential?", "Renewable Energy Market Regulations in African Countries"; or "Skills and Technologies for Renewable Energy Development in Africa: current State and Prospects for the Future".

 The AfDB is striving to enhance the portal and open it up for learners in Africa as well as others who are interested in development knowledge. The project is envisioned to become the African Knowledge Hub in order to build e-learning capacity throughout the continent. Lastly, Dr. Bakri Abdul Karim mentioned collaboration with the Bank in this area. He expressed that the AfDB does not wish to remain a single actor for this matter and is hence open for collaboration with development partners from Africa and globally.

2.3   Jaji Lukman – PAN AFRICAN UNIVERSITY IT NETWORK (PAUNET)

The presentation by Mr Jaji Lukman, expert and software developer at GIZ, seconded to the African Union Commission, provided information on the current initiatives of the AU-HRST, the Pan African University IT Network (PAUNET) and possible cooperation potentials with the AU in this regard.

The presentation started with an overview of PAUNET. It is a high-speed data-communication network, which will be an essential element to support the Pan African University's vision to develop institutions of excellence in science, technology, innovation, social sciences and governance as a future bedrock for an African pool of higher education and research.

The objective of PAUNET, among others, is to provide the infrastructure to support the development, share and delivery of innovative online education content and applications nationally and regionally. Furthermore, it shall enable the integration of PAU institutions into the global research and education community through the provision of both intra-African connectivity and access to sufficient and affordable international internet bandwidth.

The presentation continued with the infrastructure and some of the services that shall be provided by PAUNET: fiber connectivity; usage of regional backbones: UbuntuNET, EUMEDConnect; establishment of a PAU NET – NOC (Network Operating Center) and a campus network reinforcement. PAUNET will also foster collaboration at sub-regional and regional levels and create a network of interconnected research and academic communities on the continent. Hence, it will promote joint institutional content development, access to large databases and sharing of research results. In the end, Jaji Lukman discussed the form and scope PAUNET could take, i.e. whether PAUNET shall become a new university or shall fuse with already existing virtual universities.

3. Identifying challenges pertaining to eLearning in RE

To identify the key challenges as perceived by the participants the following methodology was employed: After the presentation, discussions continued in the format of an individual brainstorming exercise, where participants were given five minutes to identify five key challenges pertaining to eLearning in RE in Africa. In the next step, all challenges were collected and clustered in six most recurrent categories. For the original transcripted working papers see Annex 4.

1. "Change Management and Awareness" - merged with "Networking"
2. "Content and Didactics" - merged with "Lab Experiments"
3. "E-Competence" - merged with "Skills"
4. "Sustainability" - merged with "Ownership"
5. "Infrastructure"
6. "Quality and Accreditation"

In a third step, some categories were merged again based on their content and clustered as follows, serving as the basis for the group work:

1. "Quality and Accreditation"
2. "Content and Didactics" merged with "Lab Experiments"
3. "Change Management, Awareness and Networking"

4. Group Work and Presentation

Three groups à approx. seven people were formed in order to discuss one core challenge with the objective to develop possible projects and /or potentials for collaboration. During 45 minutes, the groups engaged in fruitful discussions and afterwards presented their results according to the following structure:

- Goals
- Expected Results
- My possible role in this project
- Next steps

Group 1 - Quality and Accreditation for eLearning in RE in Africa

Group 1 worked on the topic of quality and accreditation in elearning for renewable energy programs. Within this framework, it identified two goals to reach the overall objective, 1) Establishment of an international advisory board for eLearning courses and 2) The standardization, harmonization, evaluation and regulation of the eLearning programs including Lab Experiments.

Based on the goals, the expected outcome will result in quality assurance and trust building, among others. Thus, the next crucial steps towards the goals identified entail the definition of the scope and the role of the advisory board and to receive expert training in the field of accreditation. The activities related to these goals should be institutionalized in the African Union as the anchor body for the provision of quality and accreditation in eLearning for renewable energy.

	Goals	Expected Results	Next steps
Group 1 - Accreditation and Quality	1-Establish an international advisory board for eLearning courses 2-Standardize, harmonize, evaluate and regulate, particularly Labs.	-Quality Assurance -Trust building -Easier access to E-learning -Improve the image of host university -Inclusiveness -Economic gain	1-Defining role and scope of advisory board 2-Training on accreditation 3-Institutionalize it, e.g. linking it with AU 4-Call for application, pre application for courses from the institution

Group 2 – Content, Didactics and Lab Experiments

Group 2 worked on the content and didactics, including lab experiments in eLearning for renewable energy programs. The group came up with four goals related to these topics : 1) Mapping already existing programs in order to avoid duplication of work and hence build on an existing fundament; 2) Identification of best practices in eLearning to develop strategies based on benchmark examples; 3) Collection of prime experiments in lab experiment in a face-to-face study setting in order to transform these into eLearning programs and 4) Inclusion of entrepreneurial and socioeconomic curricular content as the field of renewable energy is very technical and hence should be complemented by other subjects.

The defined goals are expected to result in a consultative curricula development based on the outcomes of the mapping study and best practices identified. Another expected result is the creation of eLearning content and re-usage of those contents already available. To achieve the goals and the results detailed an action plan shall determine the way forward for implementation. Lastly, the curricula design is imminent in the next step.

	Goals	Expected Results	Next steps
Group 2 – Content, Didactic and Lab Experiments	1-Mapping of existing curricular /programs 2-Identifying best practice in eLearning 3-Collecting of prime experiments + transforming into eLearning content 4-Inclusion of entrepreneurial and socio-economic aspects	-Consultative curriculum creation -Creation of eLearning content (e-labs) - Action plan	1-Development of implementation strategy 2- Designing instruction of course work

Group 3 - Change Management, Awareness and Networking

Working Group 3 thought about how change management and awareness-creation can be conducive to the implementation of eLearning in renewable energy. It identified four goals in this respect: 1) Improving social acceptance of eLearning; 2) Usage of differentiated and targeted media techniques in order to attract different age groups for the common goal of eLearning; 3) Considering that not everyone who is willing to use e-learning is technology-literate. Hence, interested individuals should have the possibility to receive basic ICT training and acquire the skills needed to explore the full potential of eLearning and 4) Setting up eLearning programs shall not be done individually as identifying fields of mutual interest can build partnerships and foster collaboration to divide and share contributions. The next steps in order to commence the abovementioned efforts require the development of a roadmap, which entails the project plan, a first identification of possible sources of funding and a strategy to form partnerships.

	Goals	Expected Results	Next steps
Group 3 - Change Management, Awareness and Networking	1-Improve social acceptance 2-Develop effective marketing strategy 3-Training for basic ICT for e-learning 4-Fostering collaboration with existing institutions	-Using new / existing media platforms to disseminate info on e-learning leading to new students -Provide basic fundamental courses in ICT -Identify areas of mutual interest in e.g. provision of laboratory facilities	1-Development of a roadmap: Project Plan, identify funding sources, forming partnerships

5. Next Steps

The moderator expressed his gratitude for all attendees' active participation and informed all workshop participants on the way forward. Discussions on the project deliberations shall continue on the PAUWES Community of Practice platform on which all participants are encouraged to register: http://www.pauwes-cop.net. In due time discussion groups, referring to the topic of the respective working group in the workshop will be created on the platform. Each group will find a concept note for a project proposal based on the results from the workshop in their online collaboration group on the platform. All workshop documents, including the post-documentation will be shared with participants by this means, too. The flyer with instructions for the Community of Practice was diffused.

Lastly, an assessment study pertaining to the theme of the workshop is currently being developed and will, in some parts, consolidate the findings retrieved from the workshop.

Annex

Annex 1 Participants' List

First Name	Name	Institution
Eva	Kimonye	PAUWES
Albert	Rugumayo	Ndejje University, Uganda
Noara	Kebir	Technical University of Berlin, Germany
Yusto Mugisha	Yustas	Sokoine University of Agriculture, Tansania
Jerome Ndam	Mungwe	Politecnico di Milano, Italy
Joseph	Mutale	University of Manchester, England
Khaiko Michael	Makwela-Wali	Durham University Energy Institute/Green Globe Architecture Ltd
Chris	Moller	The Open University, England
Esther Prudence	Jouégo	Neu-Ulm University of Applied Sciences, Germany
Marco	Rupprich	Management Center Innsbruck (MCI), Germany
Catherina	Cader	Reiner Lemoine Institut, Germany
Olufulahan	Osunmuyiwa	Vrije Universiteit Amsterdam
Joseph	Kenfack	University Yaounde 1, Cameroon
Venkata Ramayya	Ancha	Jimma University, Ethiopia
Miller Elly	Shatsala	Masinde Muliro University of Science and Technology (MMUST), Kenya
Zana	Crispen	African Union Commission for Energy and Infrastructure,
Abdulkadir Aman	Hassen	Bahir Dar Institute of Technology, Bahir Dar University, Ethiopia

Jaji	Lukman	Deutsche Gesellschaft für Internationale Zusammenarbeit GIZ
Rafika	Boudries	Centre de Développement des Energies Renouvelables (CDER), Algeria
Yekeen Adeeyo	Sanusi	Federal University of Technology, Minna, Nigeria
Sameer	Hameer	Nelson Mandela African Institution of Science and Technology (NM-AIST), Tansania
Abbes	Sebihi	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
Erick	Tambo	United Nations University Institute for Environment and Human Security (UNU-EHS), Germany
Lucy	Larbi	United Nations University Institute for Environment and Human Security (UNU-EHS), Germany
Niklas	Hayek	European Union Energy Initiative Partnership Dialogue Facility (EUEI PDF)
Florian	Lenz	European Union Energy Initiative Partnership Dialogue Facility (EUEI PDF)

Annex 2 Workshop Agenda

Workshop on eLearning in Renewable Energy Higher Education in Africa

March 11th, 2016

Time	Activity	Purpose	Responsible
10 min	Opening and welcome	Friendly welcome to all participants	RECP and GIZ-PAUWES
5 min	Introduction into workshop rationale and proceedings	Agenda	Dr. Erick Tambo
45 min	Presentation of the eLearning assessment in RE in Africa	Introduction to eLearning and presentation of results of the assessment Presentation of results of the poll Introduction to goals, processes and expected results of the workshop	Dr. Erick Tambo

20 min	Presentation on capacity building and eLearning to support activities/projects at AfDB, particularly in Renewable Energy	Capacity building and eLearning at AfDB Role of capacity building in the context of PIDA energy Prospects for collaboration	Dr. Bakri Abdul Karim
20 min	eLearning projects and initiatives at AU-HRST (PAU, Pan African eNetwork, etc.)	eLearning at PAU Pan African eNetwork Pan African Virtual university	Jaji Lukman
20	*Break*		
5 min	Defining challenges pertaining to educational technologies for renewable energy education in Africa	Define a maximum of 4 challenges	Dr. Erick Tambo and Lucy Larbi
15 min	Clustering the challenges	Cluster according to similar challenges	Dr. Erick Tambo and Lucy Larbi
60 min	Group work: Identification of 3-4 projects to be further discussed	Identification of 3-4 main ideas for projects and definition of: Goals, Role, Potential Results, Next steps	Dr. Erick Tambo and Lucy Larbi
10 min	Closing remarks and the way forward		RECP

Annex 3 URLs to the powerpoint presentations delivered during the workshop 1

Dr. Erick Tambo - Role, Potential and Cooperation in the Field of Distance Education in Renewable Energy Higher Education   http://pauwes-cop.net/index.php/filesharing/file/view/60/workshop-e-learning4re-he-africa-recpsymposium2016-unu-pdf

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[1] Link zu ZIP archive der RECP Seite für Zugang ohne Registrierung auf die PAUWES COP

Bakri Abdul Karim – The AfDB, Capacity Building and eLearning http://pauwes-cop.net/index.php/filesharing/file/view/61/af-db-presentaion-bakri-10-march-pdf

Jaji Lukman – Pan African University IT Network (PAUNET) http://pauwes-cop.net/index.php/filesharing/file/view/62/pan-african-university-it-network-paunet-pdf

Annex 4 Transcripts of original working papers

Category	Challenge
Infrastructure - 18	- Unreliable access to internet with slow speed connection - The problem of connection in developing countries - Understanding infrastructure requirement - Accessibility (Electricity availability) - The infrastructure in most African countries is not suitable for eLearning - Power (electricity) to support e-learning infrastructure - Cost of eLearning infrastructure - How to help partners from SSA to have easier access to internet and enable them to be part of the eLearning - Deficit of energy - Good equipment - Where is hardware required, where will it be located - Availability of labs /equipment - Local hardware - Internet connection - Hardware - Access to network - Power problems - Lack of laboratories - Bandwidth issue
Quality and Accreditation - 12	- Quality perception - Acceptance / Degree accreditation - Accreditation issues of the program - The quality, how it can be identified - Quality assurance - Accreditation - High quality material development - Accreditation: existing vs. new eLearning courses - Examination / Certification - Certification / diploma - What is available, where, quality and outcomes - Accreditation
Sustainability - 6	- Cost - Funding - Cost of eLearning infrastructure (software, hardware, bandwidth) - Hardware requirements for students: How are they affordable - Sustainability: financial, ownership / capacity of institution - Funding

Content and Didactic - 8	- Hardware requirements for students: How are they affordable - Course design / instructural thinking - Curriculum development - Teaching the importance of preventive maintenance - Teaching how to ensure that RE systems are both safe + resilient in various failure modes - High quality material development - Syllabus - Enhanced curriculum
Skills - 4	- Short term training or program - Availability of tutors - Training electricians in designing, sizing + installing RE systems - Training electricians in troubleshooting + repairing RE systems
E-Competence - 8	- Personal/Manpower - Who is able / has the capacity to programme e.g. virtual experiments - Availability of tutors - General ICT education of students and teachers: What is required to benefit optimally - Convincing people, employees, of the value of eLearning - Training of trainers - Technical support - Lack of skill / training
Change Management and Awareness - 8	- Willingness to adopt the technology - Social behaviour - Willingness of institution to host the program. There must be a win-win situation. Is there funding - Social behaviour / acceptance - Teaching how to manage the project, from selling the initial concept to the community, right through to putting in place a maintenance programme that will continue - Integrating eLearning into the process at my organization: many documents, materials, presentations we generate all the day, could be converted into eLearning material + internal knowledge transfer can be organized through eLearning – what is 1,2 3rd step - Fear of the unknown - Time and commitment
Lab Experiment - 8	- Integrating laboratory practice into e-learning - Limited access to interactive/smart classrooms - How to teach pouex experiments, can this be run via simulation - How to handle practice oriented courses - How to do practical training - How to make the training practical - Practical aspects of some courses - Lack of remote / virtual laboratories

Networking - 4	- eLearning blog, co-designing of projects - Who is maintaining competent networks - How to help partners from SSA to have easier access to internet and enable them to be part of the eLearning - Knowledge information exchange
Ownership – 1	- With whom will ownership reside when collaborating

Annex 5 Selected Pictures of the Workshop