Environmental Management in the Middle-East (EMME): Spatial approaches

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EMME Quality Assurance and Control Plan	
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1. Introduction

This Manual represents the EMME Quality Assurance and Control (QA&QC) Plan. A Quality Assurance and Control (QA&QC) Plan within the project is compulsory to ensure the **quality levels** of the project's results.

The main objective of the document the **development of an evaluation and validation approach of project's several activities in order to identify their impact** and analyse these approaches through real life pilots in various learning contexts, in terms of their effectiveness and efficiency. Methods used will range from qualitative and quantitative studies to questionnaire-based analysis.

2.   Definitions

This Section attempts to define Quality Assurance so that all consortium members have the same notion of the process. Since the project involves different activities that use the terms evaluation and validation, it deems appropriate to provide herein with definitions of such terms not only to clarify their meaning, but also to demonstrate interrelations among different quality assurance activities and establish the importance of assessing high levels of quality processes.

A.   Quality Assurance

At this point, a clarification of the term Quality Assurance (QA) is required; QA is *a set of activities for ensuring quality in the processes by which products are developed*.[1]

B.   Quality Control

QA is often confused with Quality Control (QC), which *is a set of activities for ensuring quality in products. The activities focus on identifying defects in the actual products produced*.[2]

A close inspection of the definitions reveals the difference of the focus of each concept. QA aims to prevent defects with a focus on the process used to make the product; hence it is a **proactive quality process**, while QC aims to identify (and correct) defects in the finished product; it therefore, is a **reactive process**. That does not imply that QA and QC are competitive concepts. On the contrary, QA should be seen as a process that once carefully drawn and devoutly followed can lead to successful QC.

C.   Validation

Another term related to Quality Assurance is **validation**. Validation of a training programme *is a measurement of whether the training achieved what it set out to achieve, i.e. the programme objectives and the objectives of the participating learners[3]*.

D.   Evaluation

Evaluation on the other hand, is *the assessment of the total value of a training programme, training system, or training course in both value- and cost-effective terms*. It differs from validation in that it is concerned with the overall benefit of the complete training programme and its implementation and not just the achievement of the learning objectives[4]. Evaluation involves the systematic collection of information about the activities, characteristic and outcomes of an activity or action, in order to determine its worth or merit[5].

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[1] Quality Assurance vs. Quality Control
http://www.diffen.com/difference/Quality_Assurance_vs_Quality_Control
[2] Ibid.
[3] A Glossary of UK Training and Occupational Learning Terms (2000), Brooks J.(ed). Institute of Training and Occupational Learning.
[4] Ibid.
[5] Dart J., Petheram R.J., Straw W. (1998). Review of evaluation in agricultural extension. *Rural Industries Research and Development Corporation Publication*. 98/136, Canberra, ACT.

3. Quality assurance and control plan; importance and need

QA as an on-going and proactive process, its importance lies in that it can improve development and test processes so that any deficiencies do not arise when the final product is to be delivered. This can be materialized through planned and systematic activities to prevent poor quality of the outcomes or misconceptions regarding the methodologies and tools involved in products' creation.

Projects such as EMME with partners from different countries that represent different learning environments require an effective Quality Assurance Scheme. A QA Scheme is not only needed due to the project's transversal, European, and multi- learning environments character; QA is also a means to the project's success.

3.1. QA and the Consortium

The partners are keen on drawing a Quality Assurance and Control Plan because they know that such a plan will:

- support the project and check on whether the targets have been met;
- allow the results to be improved based upon judgments made about the value and quality of the project;
- simplify decision making and deal with fundamental changes in the project, if necessary;
- find a context for open discussion, debate, and agreement on project performance; and reveal strengths/ weaknesses and identify obstacles to progress.

For that reasons, a Quality Control Group has been formed right upon the beginning of the project. The **Quality Assurance & Control Group** will be dealing with all quality aspects of the EMME Project related to Quality Assurance and Quality Control procedures and measures throughout the life span of the project.

The group consists of **four members:**

- Project Coordinator (LU): Ali Mansourian
- LU : Petter Pilesjö
- TU: Mohammed Mansoor Abdu Almaliki
- UT: Ara Toomanian

The overall quality of the project will be evaluated by an independent **external evaluator** who will be subcontracted. He/she will evaluate the developed courses, the e-learning system and the developed emGeo.

Regarding the courses developed, the group will assess the overall QA as follows:

a. **Compatibility** of the new developed courses to the Bologna system as well as to national and regional needs/priorities;
b. A group of **test pilot students** will be invited to study the courses and their perspectives on the courses will be considered for making improvements. Revisions of the course materials will be performed according to the student evaluations;

c. **emGeo will also be assessed by a group of potential users** from stakeholders (i.e. environmental management) and partner universities. Bugs and unclear points, which are reported, will be fixed. Those areas where the system can be improved will be reported for future development of the system.

3.2. Quality and reporting

To provide a formal account of the process, a **Progress and a Final report** are expected, which for a Multilateral Project contain a section on the effectiveness of the quality assurance strategy applied.

The section should mention:

- What has been chosen for quality assessment and why;
- The means of collecting evidence and when this was carried out (a variety of methods focusing on qualitative and quantitative evidence) ;
- Summaries of the data and other notable responses;
- Project modifications together with further justification if appropriate.

4. Quality control and assurance stages

The overall stages of the quality control and assurance process are described in the table below.

Type of activities	Timeline	Experts /Responsible person(s)	Result and outputs
Creating the Quality control group (QCG).	Feb. 2019	The project coordinator, QCG members.	Progress of the project according to the plan. Monitoring the quality of activities.
Monthly control of the project activities	At the end of each month	QCG, university coordinators, Head of Departments	Good quality of periodic activities
Course evaluation by experts (pilot students)	March – Oct. 2020	Will be selected by country partner universities	High quality courses
emGeo assessment	Oct. - Dec. 2021	. Six experts from partner universities will evaluate the system, when it is ready.	emGeo as a working system

Overall project results quality assessment: by an international expert.	March 2021 - Aug. 2022	Will be selected by LU	Successful end of the project

5. Objectives and Progress indicators

The overall project objectives are to:

- **Develop innovative and blended courses** in SDI-T for environmental management: The developed courses will be offered by partner universities as short courses to the environmental management authorities in the Middle East. They will also be used as complementary courses in the master programs.
- **Train trainers**: Faculty members at the partner universities will be trained on how to teach the developed courses. The ability of local teachers to teach and update these courses guarantees lifelong learning and continuation of the education and usage of the courses.
- **Implement the GeoNetC program** (funded by Erasmus+ 2015) in Yemen and Iran: The master program will be implemented in Yemen and 3 Iranian universities.
- **Improve the quality in education and teaching**: Middle East partners will be equipped with e-learning and open network learning (ONL) tools. This makes it possible to offer standard SDI-T courses as well as the specialized courses developed in this project, online.

All courses in this project will be developed based on the Bologna process. Using the Bologna framework helps to introduce the framework and its advantages to the non-EU partners. To use the courses in the Middle East, **a conversion between Bologna standards and local standards has to be carried out**. For this, the courses will be offered to the ministries of higher education for accreditation.

Both **quantitative** and **qualitative performance indicators** will be used for different project outcomes and activities of the EMME project. These will be monitored and reviewed throughout the project.

The following table described the main indicators and expected **deliverables** associated to the Work Packages.

Work Package	Expected deliverables
WP1: Kick-off meeting	**D1**: Consolidated work plan and status report **D2**: Meeting minutes with action item list and a responsible person for each item **D3**: Steering Committee established **D4**: Quality Control Group established **D5**: MoU/MoA drafted. **D6**: Overall data and functionality requirements for emGeo defined

WP2: Preparation for the development: information collection and analysis of the local needs	**D1**: Need analysis report produced **D2**: Outlines of the courses defined **D3**: Course development groups and leaders identified **D4**: Cooperation and communication arrangements defined **D6**: Need analysis report for emGeo produced **D7**: emGeo functionalities determined
WP3: Equipping laboratories	**D1**: Laboratories equipped **D2**: E-learning labs equipped
WP4: Course development	**D1**: Innovative campus, e-learning, and blended courses on SDI-T for environmental management developed SDI-T for environmental change monitoring (Course No. 1) SDI-T for environmental impact assessment (Course No. 2) SDI-T for collaborative environmental management (Course No. 3) **D2**: Translated versions of the courses to the local languages.
WP5: Training of Trainers (ToT)	**D1**: High quality ToT **D2**: Improved capacity of teachers **D3**: Improved capacity of experts on application of SDI-T
WP6: Setting up e-learning systems	**D1**: Up and running e-learning system **D2**: Trained staff
WP7: Development of environmental management Geoportal (emGeo)	**D1**: emGeo system operational **D2**: User guide for emGeo developed
WP8: Quality assessment	**D1**: Quality-enhanced innovative course materials **D2**: Modern and applicable Geoportal for the collection and sharing of environmental data (emGeo). D3: Overall quality report produced
WP9: Dissemination and exploitation	**D1**: Project website and Facebook page maintained **D2**: Project book developed **D3**: Improved capacity in higher education **D4**: Improved capacity of environmental management **D5**: Improved capacity of employability **D6**: Improved culture of university-enterprise cooperation **D7**: Lifelong learning **D8**: Improved international cooperation **D9**: Improved quality of education and teaching
WP10: Coordination and management	**D1**: A well-managed and organized project **D2**: Clear/correct financial status of the project, up to date book-keeping. **D3**: Democratic decision-making process

The deliverables will undergo a five-step evaluation process, evaluating aspects of **deliverables planning, preparation and approval.**

For each deliverable, the general planning, preparation and approval process is expected to be as follows:

1. The partner responsible for it:
   - Establishes communication periodicity with all other members/partners involved in the deliverable's development;
   - Discusses problems/ changes with the Steering Committee;
   - Reports progress to the Steering Committee
2. If deliverable is a report, the first draft is made available two weeks before the delivery date
3. Internal review from a number (one to two, depending the deliverable's complexity and significance) of reviewers appointed, the goal should be to have one week available for versioning, discussion and comments among contributors and reviewers.
4. The partner approves the revised final version and submits it to the Steering Committee
5. The Steering Committee approves the deliverable and (a) uploads it to the EMME website (if the deliverable is a public document) or circulates it among partners, (b) uploads it to the Erasmus+ dissemination platform

The following table described overarching **quality assurance measures** for the project as a whole.

Description	Measure
Total number of consortium **meetings**	8
Number of **visits to Iran** by programme countries to disseminate the aim and the objectives of the project	2 (held online due to the Pandemic)
Number of **visits to Yemen** by programme countries (and/or EU partners) to disseminate the aim and the objectives of the project	0
Number of campus, e-learning and blended **courses developed, recognised/accredited, and implemented/delivered**	3
Volume (in ECTS) of new/updated courses	30
Number **of experts (pilot students)** to evaluate the courses	12
Number of **laboratories equipped**	5
Number of **e-learning systems set-up**	5
Number of **staff trained** on the environmental management geoportal (emGeo)	25
Number of **Training of Trainers (ToT) workshops**	3
Number of **trainers trained** (ToT)	25
Number of **teachers affected** by the project (within and beyond the partnership)	60
Number of **students affected** by the project (within and beyond the partnership)	800
Number of presentations of project and results at **conferences/events/meetings and in journals/newspapers**	10
Number of **dissemination workshops**	3