Environment and Climate Regional Accession Network ECRAN

Environment and Climate Regional Accession Network (ECRAN)

ECRAN Workshop on Quantitative Models and Scenario Development in Climate and Energy Policy (support mission to Module 4)

05-06 July 2016, Podgorica, Montenegro

Enviroment and Climate Regional Accession Network ECRAN

ENVIRONMENTAL AND CLIMA REGIONAL NETWORK FOR ACCESSION - ECRAN

WORKSHOP REPORT

Activity No 3.1. Subtask 1.4-A

WORKSHOP ON QUANTITATIVE MODELS AND SCENARIO DEVELOPMENT IN CLIMATE AND ENERGY POLICY (SUPPORT MISSION TO MODULE 4)

SUB-TASK 1.4 – A:

Practical Hands on Assistance on Quantitative Models and Scenario Development to be used to Assess Climate and Energy Options to set Emission Targets

05-06 July 2016, Podgorica, Montenegro

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LIST OF ABREVIATIONS	
EC	European Commission
EU	European Union
ETS	Emission Trading System
GDP	Gross Domestic Product
GHG	Greenhouse Gas
LEAP	Long-range Energy Alternatives Planning System
MS	Member State
UNFCCC	United Nation Framework Convention on Climate Change

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I. Background/Rationale

There is a need to start developing concrete climate policies based on full alignment with the EU Climate acquis and GHG emission reduction target setting. At present the absence of national or regional targets and roadmaps towards implementation of these targets hamper the development of robust climate policies in the region and thus low emission development. ECRAN has developed into the platform to start a regional work on this topic. Climate policy related strategy development as well as fulfilling the reporting requirements of Annex I countries towards the UNFCCC, similarly to the EU acquis requires detailed modelling of emission scenarios on country level.

In most ECRAN beneficiaries there is experience in modelling aided scenario work, especially in the framework of the preparations of National Communications. However, in many cases this work has been designed and outsourced by international organisations or other external organisations without adequate involvement or ownership of the results by the countries. As such, the knowledge base within the administrations on modelling aided scenario work is limited.

In terms of technical requirements, the focus of the training was on one specific modelling platform, the Long-range Energy Alternatives Planning System (LEAP*)* which has been developed by the Stockholm Environmental Institute. Of the eight beneficiaries, six are already using LEAP, and one (Kosovo*[1]) has expressed interest in using it. The training program was organized into four modules and it was conducted during 2014 and 2016:

- Module 1 – Introduction to modelling techniques and assessing data needs for the base year;
- Module 2 – Development of a baseline (without measures) scenario;
- Module 3 – Development of with measures and with additional measures scenarios and sensitivity analysis;
- Module 4 – Gap analysis and identification of further technical capacity building needs

The modules 1 and 4 were organized back to back with Regional Training Workshops to ensure that capacity building of technical skills is delivered in combination with capacity building related to the selected EU Climate Acquis. This integrated delivery of capacity building related to policy and technical skills will increase the understanding of modelling as a policy tool which can promote policy-making based on evidence and analysis.

As the aim of the exercise was to increase capacity in public administrations, the tasks, as a general rule, targeted staff working at the public administration. In particular, the involvement of staff working on the climate, energy and transport policy in ministries, in providing technical support at government agencies and bodies, as well as staff, working at national statistical offices, was desirable. However, the heterogeneity of institutional arrangements for modelling among the ECRAN beneficiaries warrants a flexible approach in selecting the target audience of the trainings and follow-up activities. In some cases, the national public administrations are working together closely with academia and prefer the continuation of existing working arrangements. In addition, although a general focus of capacity building activities on the public administrations seems to be the preferred option, low levels

[1] *This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ opinion on the Kosovo declaration of independence.

of capacity and overburdened staff may be an obstacle to active participation in trainings and follow-up activities. In such cases targeting academia in addition to staff of public administrations may be a better solution than inadequate participation on behalf of some of the beneficiaries.

To ensure active participation, ECRAN beneficiaries were asked to commit that the experts nominated for the bottom-up exercise are allowed sufficient time for carrying out the work required under the different tasks, including attending seminars and conducting the follow-up activities. Experts from the beneficiaries were expected to spend 12 days participating in workshops, and a minimum of 15 days in follow-up activities implementing the regional pilot modelling exercise. The ECRAN team has monitored work progress to ensure that the exercise, which requires a significant commitment, has been advancing as foreseen.

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II. Objectives of the training

General objectives

The **wider** objective is to strengthen regional cooperation between the EU candidate countries and potential candidates in the fields of climate action and to assist them on their way towards the transposition and implementation of the EU climate policies as a key precondition for EU accession.

Specific objectives

The specific objective of the training program is to increase technical capacities in the countries to allow them to carry out modelling of emission scenarios. The modelling aided scenario work will benefit countries by helping them meet their future EU and UNFCCC reporting requirements, and to form a rational position on national efforts contributing to the EU 2050 roadmap and the 2030 Framework. It may also assist them by promoting evidence based planning in energy policy, including development of an energy strategy, energy efficiency action plan and a renewable energy action plan.

Depending on the circumstances of the national public administrations and their future plans to build modelling capacity inside or outside the public administration, the technical modelling skills can be used in one of two ways. If the chosen option is to carry out modelling work within the public administration the exercise will help building technical capacity and will provide a basis for future work. If the chosen option is to outsource modelling work, the exercise can help beneficiaries gain a better understanding of modelling work which will enable better communication with consultants, thereby ensuring that modelling is relevant to policymakers and that policymakers understand the limits of the work and are able to better interpret the results.

Results/outputs

The following results are expected from the exercise:

- Enhanced technical capacity within the relevant ministries and institutions (in particular ministries responsible for climate, energy, transport, as well as national statistical offices) to model specific policies and measures to converge with the EU climate change policy and selected EU legislation;
- Strengthened regional network of experts.
- Identification and resolution of potential weak points in the acquired knowledge and expansion of the gained knowledge to practical applications in the context of the given beneficiary.
- Reinforcement of the knowledge of the participants of what they have learnt in the four module training program.

The first four-day long meeting was organized in Skopje in November 2014 and aimed to give an introduction to the participants to the policy environment, give an introductory training on LEAP as well as provide initial steps in filling the LEAP structure with country relevant data, building up the basic model. Two more trainings followed with a final one yet to happen, including homework that was given within the yearlong program.

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Aim of the workshop in Podgorica (5-6 July 2016)

The first four-day long meeting was organized in Skopje in November 2014 and aimed to give an introduction to the participants to the policy environment, give an introductory training on LEAP as well as provide initial steps in filling the LEAP structure with country relevant data, building up the basic model. The second workshop was organised in Istanbul on 26-28 May 2015 and aimed to further build analytical capacity of participants. The focus of the training was on the definition of scenario types, definition and reporting on policies and measures, projections of drivers of future emissions, costs of technologies. The third workshop, held in Zagreb, aimed to further increase the knowledge of participants on scenario development and on cost-benefit analysis of the different scenarios.

The module aimed to provide hands on practice to participants in applying the knowledge gained during modules 1-4 to developing low emission development scenarios applicable to Montenegro and Bosnia and Herzegovina. In addition, the module also provided training to participants who had not benefitted from the previous trainings to enable them to develop a basic understanding of the use of LEAP. A separate training, with smaller number of participants allows for more interactive hands-on exercises than the general training programme with nearly 30 participants. The training is provided by ECRAN and TAIEX experts engaged in the year long program.

The beneficiaries of the training included participants from several different ministries and agencies of Montenegro and one participant from the public administration of Bosnia and Herzegovina.

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III. EU policy and legislation covered by the training

Regulation (EU) No 525/2013 of the European Parliament and of the Council of 21 May 2013 on a mechanism for monitoring and reporting greenhouse gas emissions and for reporting other information at national and Union level relevant to climate change and repealing Decision No 280/2004/EC. This regulation lays down a mechanism for monitoring and reporting GHG emissions and for reporting other information at national and EU level relevant to climate change. These provisions also apply to:

- Reporting on the EU and its MS low-carbon development strategies;
- GHG emissions from sectors and sources and the removals by sinks covered by the national GHG inventories;
- GHG emissions;
- The non-CO2 related climate impacts, which are associated with emissions from civil aviation;
- the EU and its MS's projections of anthropogenic emissions by sources and removals by sinks of GHG not controlled by the Montreal protocol, and the MS' policies and measures relating thereto;
- MS' actions to adapt to climate change.

The 2030 Framework for climate and energy policies

EU leaders agreed on 23 October 2014 to the internal 2030 greenhouse gas reduction target of at least 40% compared to 1990 together with the other main building blocks of the 2030 policy framework for climate and energy, as proposed by the European Commission in January 2014. This 2030 policy framework aims to make the European Union's economy and energy system more competitive, secure and sustainable and also sets a target of at least 27% for renewable energy and energy savings by 2030.

While the EU is making good progress towards meeting its climate and energy targets for 2020, an integrated policy framework for the period up to 2030 is needed to ensure regulatory certainty for investors and a coordinated approach among Member States.

The framework presented will drive continued progress towards a low-carbon economy. It aims to build a competitive and secure energy system that ensures affordable energy for all consumers, increases the security of the EU's energy supplies, reduces our dependence on energy imports and creates new opportunities for growth and jobs.

- <u>Reducing greenhouse gas emissions by at least 40%</u>

  A centre piece of the framework is the binding target to reduce EU domestic greenhouse gas emissions by at least 40% below the 1990 level by 2030.

  This target will ensure that the EU is on the cost-effective track towards meeting its objective of cutting emissions by at least 80% by 2050. By setting its level of climate ambition for 2030, the EU will also be able to engage actively in the negotiations on a new international climate agreement that should take effect in 2020.

  To achieve the overall 40% target, the sectors covered by the EU emissions trading system (EU ETS) would have to reduce their emissions by 43% compared to 2005. Emissions from sectors

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outside the EU ETS would need to be cut by 30% below the 2005 level. This will need to be translated into Member State targets. The European Council has outlined the main principles to achieve this.

- Increasing the share of renewable energy to at least 27%

  Renewable energy will play a key role in the transition towards a competitive, secure and sustainable energy system. The Commission proposed an objective of increasing the share of renewable energy to at least 27% of the EU's energy consumption by 2030. The European Council endorsed this target which is binding at EU level.

- Increasing energy efficiency by at least 27%

  The European Commission proposed a 30% energy savings target for 2030, following a review of the Energy Efficiency Directive. The proposed target builds on the achievements already reached: new buildings use half the energy they did in the 1980s and industry is about 19% less energy intensive than in 2001. The European Council, however, endorsed an indicative target of 27% to be reviewed in 2020 having in mind a 30% target.

- Reform of the EU emissions trading system

  The EU ETS will be reformed and strengthened. A 43% greenhouse gas reduction target in 2030 in the ETS translates into a cap declining by 2.2% annually from 2021 onwards, instead of the rate of 1.74% up to 2020.

  In January 2014 the Commission proposed to establish a market stability reserve from 2021 onwards. This is to address the surplus of emission allowances in the EU ETS that has built up in recent years and to improve the system's resilience to major shocks. This will ensure that in the future the EU ETS is more robust and effective in promoting low-carbon investment at least cost to society.

  The European Council underlined that a reformed, well-functioning ETS with an instrument to stabilise the market in line with the Commission's proposal will be the main instrument to achieve greenhouse gas emission reductions.

- New governance system

  The 2030 framework proposed a new governance framework based on national plans for competitive, secure and sustainable energy as well as a set of key indicators to assess progress over time. The European Council agreed that a reliable and transparent governance system will be developed to help ensure that the EU meets its energy policy goals.

Effort Sharing

The current Effort Sharing Decision (Decision No 406/2009)) establishes binding annual greenhouse gas emission targets for Member States for the period 2013–2020. These targets concern emissions from most sectors not included in the EU Emissions Trading System (EU ETS), such as transport (except aviation and international maritime shipping), buildings, agriculture and waste. In the framework of the Effort Sharing Decision the sectors covered by the EU Emissions Trading System (EU ETS) would

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have to reduce their emissions by 30% compared to 2005. Emissions from sectors outside the EU ETS would need to be cut by 10% below the 2005 level.

In the framework of the 2030 Framework, the sectors covered by the EU Emissions Trading System (EU ETS) would have to reduce their emissions by 43% compared to 2005. Emissions from sectors outside the EU ETS would need to be cut by 30% below the 2005 level. This will need to be translated into Member State targets using the same methodology as in the current Effort Sharing Decision (Member State targets will vary between 0% -40%; Current GDP data will be updated; Member States with GDP/capita above the EU average: targets will be adjusted with cost effectiveness). The European Council agreed in October 2014 that a reliable and transparent governance system will be developed to help ensure that the EU meets its energy policy goals.

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IV. Highlights from the training workshop

The workshop did not include presentations but had a dialogue format. The participants were divided into two groups.

The first group consisted of participants who had completed the 4 module training and had a good familiarity with LEAP. Participants (including the single participant from Bosnia-Herzegovina) used data for Montenegro to develop decarbonisation scenarios for two sectors: building and transport.

The second group consisted of participants who had not completed the 4 module training and were therefore not familiar with the use of the LEAP modelling software. They received a basic introductory training in LEAP which focused on the following elements:

- Basic functionalities of the LEAP modelling software;
- Modelling demand sectors in LEAP and introducing the necessary historical data under current accounts;
- Modelling transformation sectors (transmission and distribution, electricity production) in LEAP tree and the necessary historical data for current accounts;
- Identification of future drivers and trends and modelling of a baseline scenario.

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V. Evaluation

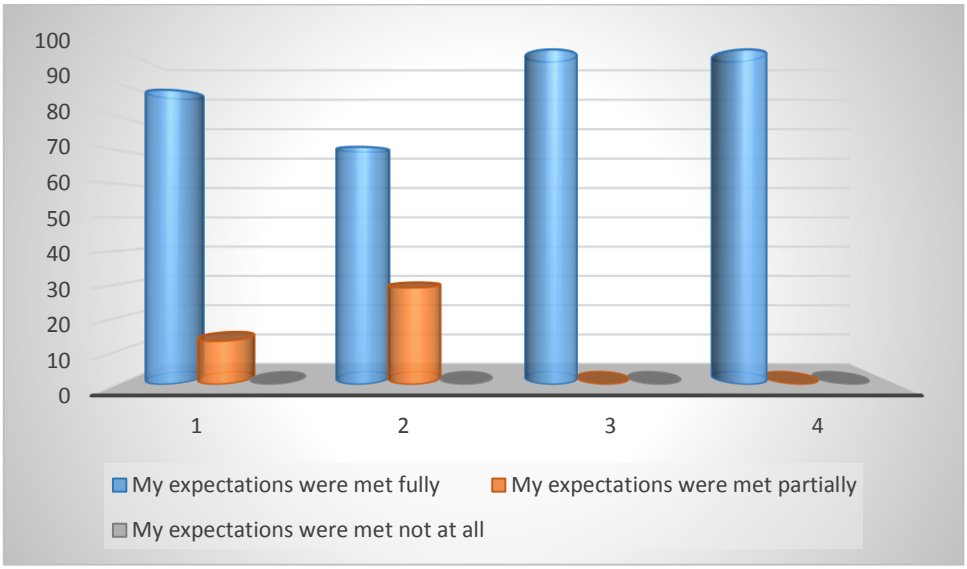
Reference is made to Annex III for the detailed evaluation.

Expectations

In the evaluation of the aspect `Enhanced technical capacity within the relevant ministries and institutions to model specific policies and measures to converge with the EU climate change policy and selected EU legislation' 87.5% of participants indicated that their expectations were fully met and 12.5% of participants indicated that their expectations were partially met. 100% of participants indicated that the workshop had fully met their expectations regarding identification and resolution of potential weak points in the acquired knowledge and expansion of the gained knowledge to practical applications in the context the beneficiary' and in 'reinforced knowledge of what I have learnt in the four module training program'.

Workshop and Presentation

Almost 100% of the evaluation scores regarding the quality aspects of the workshop such as achieved objectives, overall quality, practical work, presentations, facilitators, obtained the marks `good` to 'excellent). The aspect on the logistical arrangements had a significantly lower score than the other aspects.



ANNEX I – Agenda

Tuesday 5 July 2016

Topic: Revisiting The Module 3 Homework and Reference Scenario Building for Montenegro and Bosnia and Herzegovina

Chair and Co-Chairs:

Venue: Podgorica, Montenegro

Start	Finish	Topic	Speaker	Sub topic/Content
08:30	**09:00**	**Registration**		
9.00	9.15	Introduction		
9.15	9.45	Recap of Modules 1-4	Anna Flessa, ECRAN	• Summary of issues covered in the different modules of the training program.
9.45	11.00	Presentation of the assessment report of the training program and discussion on the results	ECRAN team, participants	• Stocktaking of progress and identification of needs/gaps. • Discussion with the beneficiary teams on further capacity building needs in their country. • Recommendations for relevant actions.
11.00	11.15	***Coffee Break***		
11.15	12.00	COP21 outcomes and EU policy agenda	József Feiler, ECRAN	• Short description of COP21 outcomes and relevant procedures stemming out of it.
12.00	13.00	EU policy agenda towards the long-term climate goal	Ágnes Kelemen, ECRAN	• Presentation of EU action agenda (policies, climate finance, etc.)
13.00	14.00	***Lunch Break***		
14.00	15.00	Reinforcement exercises:	Participants with the help of Anna	• Presentation of (I)NDCs

		scenario analysis reflecting NDC target (1)	Flessa, Eleni-Danai Mavraki and Agnes Kelemen, ECRAN, Alexandra Novikova-Rodi, IKEM	• Insertion of assumptions in national LEAP dataset.
15.00	15.45	Reinforcement exercises: scenario analysis reflecting NDC target (2)	Participants with the help of Anna Flessa, Eleni-Danai Mavraki and Agnes Kelemen, ECRAN	• Running of relevant scenarios. • Fixing of possible errors.
15.45	16.00	***Coffee Break***		
16.00	17.00	Discussion on results	Participants, ECRAN team	• Comments on the policy options and financing needs.

Wednesday 6 July 2016

Topic: Reinforcement of the scenario analyses reflecting carbon neutrality and "net zero total emissions"

Chair and Co-Chairs:

Venue: Podgorica, Montenegro

Start	Finish	Topic	Speaker	Sub topic/Content
08:30	**09:00**	**Registration**		
9.00	10.00	Reinforcement exercises: scenario analysis reflecting "carbon neutrality" and "net zero total GHG emissions" (1)	Anna Flessa, ECRAN, Alexandra Novikova-Rodi, IKEM Germany	• Creation of scenarios targeting "carbon neutrality" and "net zero total GHG emissions" years (with time horizon after 2050). • Selection of possible policy and technology options.

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10.00	11.00	Reinforcement exercises: scenario analysis reflecting "carbon neutrality" and "net zero total GHG emissions" (2)	Anna Flessa, Eleni-Danai Mavraki, ECRAN	• Running the scenarios in LEAP. • Fixing of possible errors and fine-tuning.
11.00	***11.15***	***Coffee Break***		
11.15	12.00	Continuation	Anna Flessa, Eleni-Danai Mavraki and Agnes Kelemen, ECRAN	• Continuation
12.00	13.00	Comparison of the different scenarios	Anna Flessa, ECRAN, Alexandra Novikova-Rodi, IKEM	• Comparison of the mitigation scenarios already developed: HAM, NDC, "carbon neutrality", "net zero total GHG emissions". • Commenting on the results.
13.00	***14.00***	***Lunch Break***		
14.00	15.30	Reporting on the results	Participants	• Team work for the preparation of a report.
15.30	***15.45***	***Coffee Break***		
15.45	16.30	Presentation of report by the team of beneficiary	Participants	• Presentation of the results and comments on the different scenarios.

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ANNEX II – Participants

First Name	Family Name	Institution Name	Country	Email
Enis	Omercic	Federal Hydrometorological Institute	Bosnia and Herzegovina	enis.omercic@fhmzbih.gov.ba
Aleksandar	Kojović	Institute of Hidrometeorology and Seismology of Montenegro	Montenegro	aleksandar.kojovic@meteo.co.me
Anton	Ljucovic	Ministry of Economy	Montenegro	anton.ljucovic@mek.gov.me
Danijela	Račić	Ministry of Sustainable Development and Tourism	Montenegro	danijela.racic@mrt.gov.me
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Tonka	Popović	Institute of Hidrometeorology and Seismology of Montenegro	Montenegro	tonka.popovic@meteo.co.me
Vanja	Rajović	Institute of Hidrometeorology and Seismology of Montenegro	Montenegro	vanja.rajovic@meteo.co.me
Vuko	Dabovic	EPCG	Montenegro	vuko.dabovic@epcg.com

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First Name	Family Name	Institution Name	Country	Email
Aleksandra	Novikova-Rodi	University of Greifswald	Germany	Aleksandra.novikova@ikem-online.de
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Charlie	Heaps	ECRAN	Sweden	charlie.heaps@sei-us.org
Jozsef	Feiler	ECRAN	Hungary	jozsef.feiler@ecranetwork.org
Imre	Csikos	ECRAN	Netherlands	imre.csikos@ecranetwork.org

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ANNEX III – Evaluation

EVALUATION

Statistical information

1.1	Workshop Session	ECRAN Workshop on Quantitative Models and Scenario Development in Climate and Energy Policy (support mission to Module 4) 05-06 July 2016, Podgorica, Montenegro
1.2	Facilitators name	As per agenda
1.3	Name and Surname of Participants (evaluators) optional	As per participants' list

Your Expectations

Please indicate to what extent specific expectations were met, or not met:

My Expectations	My expectations were met		
	Fully	**Partially**	**Not at all**
1. Enhanced technical capacity within the relevant ministries and institutions to model specific policies and measures to converge with the EU climate change policy and selected EU legislation.	IIIII II	I	
2. Strengthened regional network of experts	IIIII	II	
3. Identification and resolution of potential weak points in the acquired knowledge and expansion of the gained knowledge to practical applications in the context of the beneficiary	IIIII III		
4. Reinforced knowledge of what I have learnt in the four module training program (if applicable).	IIIII II		

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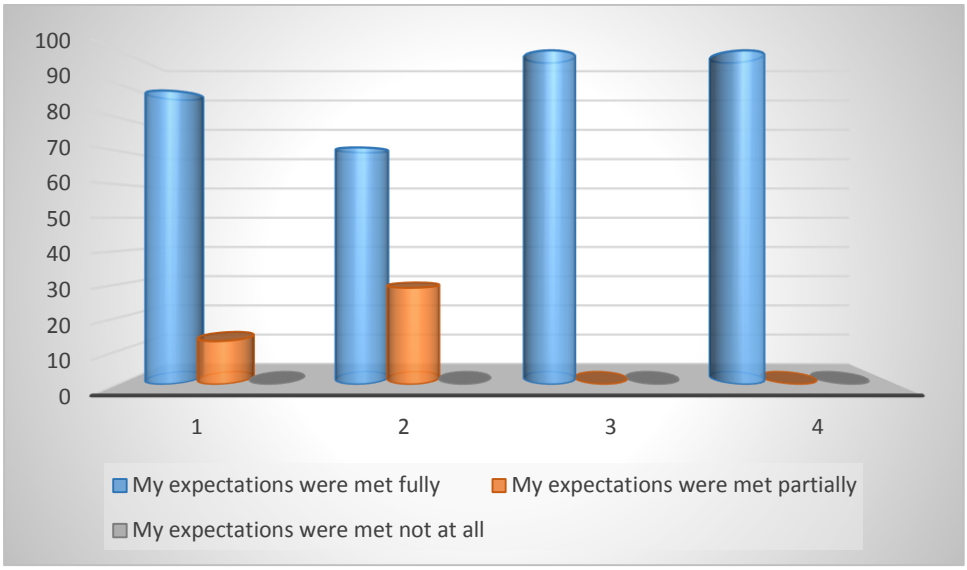

Workshop and Presentation

Please rate the following statements in respect of this training module:

Aspect of Workshop	Excellent	Good	Average	Acceptable	Poor	Unacceptable
1. The workshop achieved the objectives set	IIIII II	I				
2. The quality of the workshop was of a high standard	IIIII III					
3. The content of the workshop was well suited to my level of understanding and experience	IIIII I	II				
4. The practical work was relevant and informative	IIIII II	I				
5. The workshop was interactive	IIIII III					
6. Facilitators were well prepared and knowledgeable on the subject matter	IIIII III					
7. The duration of this workshop was neither too long nor too short	IIIII II	I				
8. The logistical arrangements (venue, refreshments, equipment) were satisfactory	IIIII III					
9. Attending this workshop was time well spent	IIIII III					

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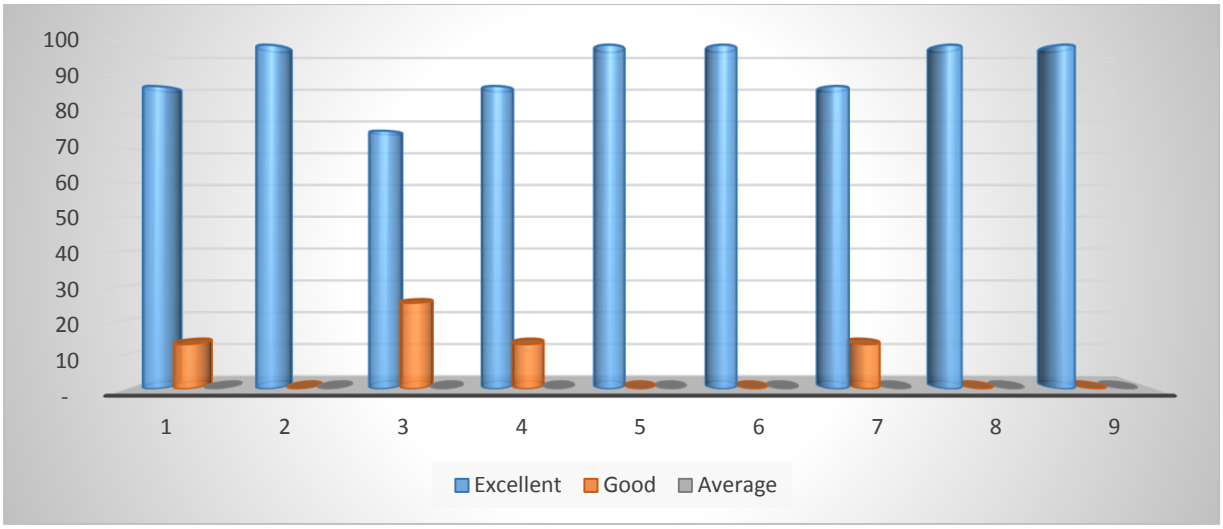

Comments and suggestions

I have the following comment and/or suggestions in addition to questions already answered:

Workshop Sessions:

- Excellent (2x)

Facilitators:

- Excellent (2x)

Workshop level and content:

- Excellent (2x)

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