Activity 4.1.1: On-the-job training at suitable operational centre for forecasters from IPA beneficiaries

On-the-job Training on Severe Weather Forecasting and Warnings
National Meteorological Administration, Bucharest, Romania
13-31 May 2013, 03-21 June 2013 (Second and Third Phase)

Performance Evaluation Report

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I. Executive Summary

The On-the-job Training Course on Severe Weather Forecasting and Warnings was designed to help forecasters from Western Balkans and Turkey to acquire the knowledge they need to produce forecasts and warnings on severe weather. It was scheduled in three phases: 3-21 September 2012, 8-26 April 2013 and 13-31 May 2013. All three phases are to be held in Bucharest, Romania, at the Romanian National Meteorological Administration under the auspices of the Operational Nowcasting Center. The first phase was held during the period 3-21 September 2012, while the last two phases were held during the periods 13-31 May 2013, and 3-21 June 2013.

The Second and the Third phase of the Training Course were conducted from 13 to 31 May 2013, and from 3 to 21 June 2013, respectively. These last phases gathered a group of four (4) forecasters from Bosnia and Herzegovina, The Former Yugoslav Republic of Macedonia, Kosovo*, and Serbia. It was an intensive, interactive, “hands-on” course based on thunderstorm forecasting and warning of severe weather events. Furthermore, the course aimed at forming the nowcasting competences of the trainees.

Overall, the participants found the training course to be very useful, especially the practical part.

However, a detailed Evaluation of the Implementation performance has been done using various evaluation methodologies, described in the Evaluation Section of the Report, which also reveal the major findings and give, to the Project Steering Committee, recommendations to ensure the long-term sustainability of the outcomes and results achieved.

* as defined by UN SCR 1244/99
II. Introduction

II.1. Background

This Training Course has been planned within the Sub-task 4.1.1 of the IPA Project 2012/290-552: “Building Resilience in Western Balkans and Turkey”, which aims at *Enhancement of the severe weather forecasting capabilities of IPA beneficiaries in support of Early Warning Systems: advanced training for meteorological forecasters required for 24/7 operations.*

The National Meteorological Administration of Romania has been chosen as the training venue due to the existence of excellent operational and technical facilities as well as the rich experience in dealing with severe weather forecasting and warnings. Romania was also considered as a suitable place for training due to the similar climate conditions as those in the project region, that would allow the trainees to use the knowledge and experience gained directly at their National Meteorological Services.

A Letter of Agreement was concluded between the National Meteorological Administration of Romania and the World Meteorological Organization to specify the working arrangements.

II.2. Objectives

The main course objectives were to deliver the participants with the knowledge on improving the forecast and evaluation of thunderstorm initiation, monitoring, forecasting, and warnings in case of severe weather events:

- through upgraded knowledge gained by participating at lectures of specialized trainers,
- through upgraded skills gained by performing operational, hands-on, nowcasting activity,
- through application of the gained expertise in developing a project.

The objectives of the training were well met (see Evaluation section).

II.3. Participants

Four forecasters attended the second and third stage of the training. They were representing the forecast offices of Bosnia & Herzegovina (Ibrahim Hadzismajlovic), The Former Yugoslav Republic of Macedonia (Boris Sekirarski), Kosovo* (Sherif Gosalci), and Serbia (Aleksandra Arsic).

All the participants met the requirements stated in *Information Note for participants on the training arrangements (attached as Annex I)*, though there was a wide range of experience amongst participants. Their presentations were well done, therefore the trainers and the course colleagues became familiar with their activities. In summary, their presentations contained useful information on the National Meteorological Services (NMS) they represent, on the responsibilities they have, and on the forecast process and tools used in this regard.

All participants were active and very interested in assimilating new knowledge on severe weather forecasting and warnings.

III. Description of the Training Activity

The Activity was scheduled in three phases: 3-21 September 2012, 13-31 May 2013, and 3-21 June 2013 to enable the conduction of the training sessions in small groups of 2-3 trainees.
The Second and Third phase of the Training Course was conducted from 13 to 31 May 2013, and 3-21 June 2013 and it totally gathered a group of four (4) forecasters from Bosnia and Herzegovina, The Former Yugoslav Republic of Macedonia, Kosovo* and Serbia.

The training programme for these two last phases was scheduled in similar manner, and designed to cover a 3-week period, during which various scientific activities were taking place. During first week the participants attended the classes on the principles of nowcasting and knowledge on severe thunderstorm forecasting and monitoring. See attached the Course Schedule as Annex II. The emphasis was on practical forecasting aspects with particular attention on the provision of timely products for disaster mitigation. These aspects include:

- Forecasting thunderstorm initiation
- Forecasting thunderstorm development
- Forecasting organised convection – single cell, multi-cell and super-cell storms
- Forecasting severe weather – flash floods, hail, damaging winds, lightning
- Detection and monitoring of thunderstorms – interpretation of radar, satellite, lightning, and observational data
- Developing conceptual models for particular areas

During the second week, the trainees were performing operational activity by assisting the nowcasters. During this time, they became familiar with the tools needed and useful to provide severe weather forecasts and warn the severe thunderstorms. The trainees witnessed a couple of severe weather events, one of these impacting the capital city of Romania. The event consisted of severe thunderstorms developing near Bucharest and moving towards the city from West, the associated phenomena being heavy convective rainfall, strong wind gusts and large hail. Therefore, these severe weather events offered the trainees the occasion to observe and to actively participate in the process of forecasting, monitoring and issuing warnings on severe weather. Additional to these operational activities, several archived case studies were presented to the trainees in order to underline other important aspects of the nowcasting process.

The last week of the training was dedicated to a project the trainees had to develop, which had to reflect their newly gained knowledge and the potential of developing and implementation of new techniques in their work. They have been doing that very well, applying various methods and knowledge gained during the first two weeks of the training period.

The course was intensive but was also opportunistic and flexible, adjusting for the speed of learning and topics of interest or in which participants had difficulties. In particular, the learning aspects were often demonstrated along the way. The course was very much “hands on”, being based around thunderstorm forecasting and warnings.

Participants commented appreciatively on the informal, friendly and supportive atmosphere during the training period.

The Training–related costs, including the trainees’ accommodation and travel, have been covered by the IPA Project budget.

IV. Evaluation of the Activity Implementation’ Performance

The Course’ Performance was evaluated in a number of ways, using the following evaluation methodologies:
• The self-completion questionnaires, i.e. the participants completed The evaluation forms (attached as Annex III).

• Face–to-face interviews, in form of evaluation sessions, also, provided opportunities of getting the trainees’ feedback and suggestions. While considering the ways forward, they were required to discuss an Action Plan, stating what they would do to implement ideas from the course on return to their workplace. Various proposals were made on how the trainees would apply the gained knowledge and experience in their activity. Such proposals include the use of gained knowledge in forecasting thunderstorms, with emphasis on severe storms development, developing conceptual models for a particular area, looking at the thermodynamics and movements of severe storms, or developing and operationally outputting various NWP convection parameters.

• Observations, throughout the course period and during the informal exchanges.

The participants were uniformly positive and enthusiastic about the value of the course and the way it was run.

On the question on what did they wish to get from this course, the trainees answered that they wanted to learn more about nowcasting forecast and warning issuing process, to improve their skills on monitoring the severe weather events, to pay more attention to the mesoscale processes, and to apply all these in their work. Further, on the question “Did this course meet your expectations? If not, why not?” all participants stated that the course met their expectations and they have learned new, useful things.

Participants would also recommend this course to others.

V. Conclusions & Recommendations

V.1. Conclusions:

1. The second and third phase of the training were organized as planned from 13th to 31st May 2013, and from 3rd to 21st June 2013, respectively, under the auspices of the Operational Nowcasting Center of the National Meteorological Administration of Romania;

2. The requirements, related to the organization of the training, stipulated in the Letter of Agreement signed with the World Meteorological Organization, were fulfilled;

3. Four forecasters participated in these last two phases of the training, in groups of two participants. The forecasters came from Bosnia and Herzegovina, The Former Yugoslav Republic of Macedonia, Kosovo* and Serbia;

4. The Trainees well appreciated the format, the content and the duration of the training course.

V.2: Recommendations for future stages:

1. Given the strong demand for such topics it is recommended that this type of courses to be held regularly.

2. The style and the content of the course could be considered for future similar training actions.
3. Although the course extended over three weeks, participants stated that was not difficult to attend. Consequently it is recommended to stick with this format and duration.

4. As a means of consolidation and support of their activity, it is recommended that the trainees should attend at complementary courses.

VI. Annexes

The Report has three (3) annexes, as follows:

Annex I: Information Note for participants on the training arrangements
Annex II: Course Schedule
Annex III: Evaluation Forms