



Netherlands Commission for  
Environmental Assessment

## BOSNIA-HERZEGOVINA (ORIO11/BA/04)

Quick Scan (Review) of the ESIA Report on the construction and modernisation of regional road R435, Nevesinje-Berkovici, subsection Vojne-Berkovici, Final report April 2015

Memorandum by the NCEA



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## Advice of the Secretariat

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**To** RVO

**Attn.** Ms Thera van Summeren

**CC** Ms Barry Nieuwenhuis

**From** The Netherlands Commission for Environmental Assessment (The NCEA)

**Date** 29 May 2015

**Subject** Quick Scan (Review) of the ESIA Report on the construction and modernisation of regional road R435, Nevesinje-Berkovici, subsection Vojne-Berkovici, Final report April 2015

By: the Secretariat of the Netherlands Commission for Environmental Assessment – Mr Pieter Jongejans, Ms Ineke Steinhauer

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# 1. Introduction

An Environmental and Social Impact Assessment (ESIA) report has been prepared as part of the Development Phase of the construction and modernisation of a part of a regional road in the southeast of Republika Srpska (RS), Bosnia and Herzegovina.

The Government of the Republic of Srpska, represented by the Ministry of Traffic and Communications of RS and “RS Roads” Ltd Banja Luka (responsible for project realisation) have applied for ORIO funding.

The project is defined as the development, modernisation and reconstruction and subsequent operation and maintenance of the existing but poorly maintained regional road R-435 between Nevesinje and Berkovići. The R-435 is a regional road of 32 km between Nevesinje and Berkovici in the south of Bosnia and Herzegovina which connects these towns with the rural areas. The R-435 was built at the end of the 19th century. Since then, there has hardly been any change of the alignment or any significant improvement of road elements, so the road is far below modern-day standards. Because of that, the region is currently poorly accessible. The most important elements of the project are:

- The modernisation and reconstruction of a section of 19 km near Berkovići, which is currently paved with gravel and bare natural rock.
- Maintenance during the winter period
- Training in international regulation

## 1.1 Approach to this Quick Scan

The RVO, who manages the ORIO facility portfolio, has requested that the Netherlands Commission for Environmental Assessment (NCEA) review the ESIA report. Aside from informing RVO decision-making, this ESIA review advice can also be used in decision-making by the local authorities on (environmental) permitting.

This advice is also intended to help to come to a better project design, and more local support for the project. The aim of this review is quality assurance. On the one hand, the NCEA checked whether the ESIA report contains the information it should, in line with the Terms of Reference (ToR) for the ESIA report 14 October 2014. At the same time, NCEA verified whether the ESIA report contains adequate, accurate and sufficient information (on environmental and socio-economic impacts and on options/alternatives to deal with these) needed for decision-making on this project. In the case of shortcomings, the consequences for decision-making are assessed and recommendations are given for supplementary information, needed to address these shortcomings. The NCEA does not express an opinion on the project itself, but focuses on the quality and completeness of the ESIA.

This Quick Scan advice is a so-called NCEA 'Advice of the secretariat', which means that the review is undertaken by staff of the NCEA secretariat. Note that this review has been prepared based on a desk review only, and therefore does not constitute an in-depth technical review of the ESIA report contents. Also, the review has not been verified 'on the ground' in Bosnia and Herzegovina. The review is based on the knowledge available at the NCEA's secretariat.

At the request of RVO, the NCEA has already provided comments on the screening (whether or not EIA is required according to the EIA regulation for Bosnia Herzegovina) for the ESIA (June 2011), the Terms of Reference for the ESIA (December 2014) and the procedure and contents of the ESIA (March 2015).

The ESIA report was reviewed as a stand-alone document, meaning that all information necessary for decision-making should be contained in the ESIA report, without requiring the reader to consult other documentation to complement gaps in information in the ESIA itself.

In the following chapters, the NCEA first presents key observations in relation to the national ESIA requirements and the technical contents of the ESIA report (chapter 2). In chapter 3, the NCEA elaborates in more detail how conclusions have been reached, by providing observations on each chapter of the ESIA report.

## 2. Key observations

### 2.1 Conformity with national EIA procedure

The ESIA report has been prepared according to the Terms of Reference for this particular project (ToR approved on 14 October 2014). The NCEA notes that the ToR mainly provide an overview of "Performance Standards on Environmental and Social Sustainability", general requirements and reference to legal documents. This means the ToR are not specific for the project nor the location. As the NCEA has mentioned before, this means there is a risk that the ESIA will also be not very relevant for decision-making. NCEA advised to make an effort to better 'scope' the project initiative, meaning focussing the ToR more on this particular project, the issues at stake and the associated impacts, possible alternatives, possible concerns of stakeholders, possible traversing of vulnerable areas etc. referring to some examples of EIA sector guidelines for roads from Romania and Serbia. Subsequently, the RS Roads has discussed these recommendations with the EIA consultants which led to insertion of some new chapters in the ESIA. The content of the ESIA was reported to be in accordance with the Law on Environmental Protection RS (Official Gazette of RS No.71 / 12). RS Roads provided a schematic overview of the EIA procedure in English.

- The NCEA concludes that the EIA procedure has been correctly followed. RS Roads has prepared a 'prior (or previous) EIA', which has been submitted to the Ministry of Spatial Planning, Civil Engineering and Ecology to determine whether or not a full ESIA is required. The Ministry has consulted with the Ministry of Agriculture, Forestry and Water Management, the Ministry of Health and Social Welfare, the Republic Institute for Protection of Cultural-Historical and Natural Heritage and the Municipalities of Nevesinje and Berkovici. Based on the opinions from these stakeholders, the Ministry issued a Decision that the RS Roads is not obliged to carry out a full EIA, but instead has to prepare a document called: 'Evidence in support of an application for an ecological permit'. Regardless of the above, RS Roads decided to still prepare a full ESIA.
- The NCEA also concludes that the ESIA report satisfactorily complies with the ToR, but that some parts of the report are not very specific for the project. The consequences of this are further explained in the next chapters of this review.

## 2.2 Quality of Technical content

Overall, the ESIA report provides information on the objective of the project, the location, possible environmental and social impacts and measures to prevent, reduce or mitigate these impacts. As (detailed) maps and illustrations are lacking, it is not easy to get an overview of the project location and its surroundings.

The NCEA notes that the ESIA lacks information which can be crucial for decision-making. The NCEA therefore recommends to update the ESIA report providing additional information on at least the following issues:

- The upgrade and modernisation of the road includes relocation of the course of the road for a stretch of 4,45 km. The reason for relocation of the road is not very obvious from the ESIA. As a consequence, it is not verifiable if relocation of the road solves existing problems. In the ESIA only one possible new course is described. It is thinkable that there are alternative courses with less environmental or social impact, but these are not taken into consideration. As especially the new section of road could lead to significant impact, the NCEA recommends:
  - to clarify the reasons for relocation of this section of the road;
  - to describe possible alternative courses for this section of the road;
  - to compare alternative courses along the most relevant criteria (environmental, social and problem-solving ability), or
  - to account for the course which has been chosen, by providing a more extensive explanation (and argumentation), regarding the criteria mentioned above.
- Environmental and social impacts of the project are described in general, but not quantified and not made specific for the new section of the road. Also, the exact course of this new section is not clear. As this is an area previously undisturbed, construction and exploitation of the road could lead to significant effects, especially on flora and fauna, landscape, cultural heritage, archaeology and water quality. These impacts cannot be quantified or verified. The NCEA recommends:
  - to provide a clear description (including a map) of the section of the R-435 which will be relocated, and the surroundings of this section;
  - to specify the characteristics of this area, especially regarding flora and fauna, landscape, cultural heritage, archaeology and water quality;
  - to use this specification to provide a more extensive description and evaluation of possible impacts on these characteristics.
- The ESIA describes possible environmental and social effects, but doesn't judge the seriousness of these effects. For decision-making it is crucial that effects are not only described, but also evaluated. This means that the report should show which effects (positive and negative) will be most relevant, and how the effects differ across alternatives. The NCEA recommends to add a table in which the environmental and social impacts of the project (and alternatives) are compared to the "reference situation". This table should contain the (most important) criteria and indicators used in the assessment and the 'scores' for the project (and alternatives) along these criteria. It is important to explain and account for the scoring of the alternatives. This means that the table with comparison results should be accompanied by a clear explanation of the effects and the differences between the alternatives.

### 3. Detailed observations per chapter

The structure of this chapter will follow the structure of the ESIA report.

#### 3.1 General part, including non-technical summary (Chapter 1)

##### **Non-technical summary (§ 1.2)**

The non-technical summary is an important part of the ESIA, as it is the main source of information for both decision-makers and the public. Therefore the summary should be easy to understand for non-experts and should contain the most important information and conclusions from the report, about objectives, alternatives and effects.

The summary describes the project, possible environmental and social impacts, measures (for prevention or reduction of impacts) and an overview of stakeholder involvement. The NCEA notes that the non-technical summary is rather technical and not easily accessible for the general public:

- A map of the location and surrounding area is lacking, which makes it difficult to understand the project, the characteristics of the area and possible (positive and negative) impact of the project.
- Description of the current situation and existing problems, the project objectives and possible solutions (alternatives) is very short. The proposed location for the road, including relocation of the course of the road over a stretch of 4,45 km, is presented as the only suitable solution without proper argumentation (also see 3.4.)
- Possible environmental and social impacts are summarised, but without judging the impacts and only focusing on the temporary effects of construction of the road. The summary does not mention possible negative impacts of the use of the modernised road, which will be especially relevant for the new section of road (also see 3.5.).
- The summary does not contain matrices, tables and figures, which can be very helpful in providing a quick overview of alternatives, criteria/indicators and effects.

■ The NCEA recommends to separate the non-technical summary from the 'General Part' of the ESIA and make it more accessible by adding maps, figures and tables, and by taking into account the comments that are mentioned above.

#### 3.2 Location and area of possible environmental impact (§ 2.1)

This paragraph contains a description of the location of the existing road and new alignment as well as the area which could experience environmental and social impacts of the project. Not all information in this paragraph is relevant for the ESIA. For instance, the relevance on the presented data on pedological (soil), geomorphological and geological properties and climatic/meteorological conditions is unclear, as the data are not very specific and were not used in the assessment of effects.

Data on the subjects that are relevant for the ESIA are also not very specific, which means that it is difficult to understand the possible effects of the project:

- § 2.1.4.4 mentions that flooding regularly occurs in the area. It is unclear if this affects the use of the road in any way;

- Data on flora and fauna (§ 2.1.7) is very brief. To understand the possible impact of the project, it is necessary:
  - to specify where protected areas or habitats are;
  - to specify which (protected) species are present in the direct surroundings of the road, especially around the new alignment;
  - to know the vulnerability of these species for the impact of the road.
- § 2.1.8 and § 2.1.9 describe the high values of landscape properties and cultural heritage in the area. This information is useful, but again not very specific. Maps and visualisations would help understanding the current situation and the possible effects of the project;
- § 2.1.10 and 2.1.11 describe data on demography and economic activity in the area, but does not specify where these are located. The distance from residential areas to the road and/or to construction sites is relevant for impact from noise, pollution or safety.

■ The NCEA recommends to specify information on the project location and its surroundings, by including maps and figures, indicating where specific values and properties are located and describing the vulnerability of those values and properties regarding the possible effects from the project.

§ 2.1.3. (Reasons to select the proposed location) states that most of the construction and modernisation of the road will be done along the existing road, which means there is no reason to compare alternative alignments. However, a part of the existing alignment will be abandoned, which will lead to a new alignment of 4.45 km (Cementara–Guvno section). The reason for the new alignment is that *“extensive precipitation and snow drifts in the area of Cementara lead to extensive jams on the existing road”*. The underlying causes of these problems are unclear. This means possible solutions for these problems are also unclear and raise questions (see also 3.4.):

- Why does relocation of the part of the road solve these problems?
- Why can't measures on the existing road be a solution?
- Are there any alternative courses for this part of the road?

■ The NCEA recommends to clarify the reasons for relocation of this section of the road by explaining the factors that cause the jams on the existing road.

Finally, § 2.1.14 describes the possible development of the area without implementation of the project. In ESIA this is usually called the “reference situation” or “business as usual scenario”. This is an important section of the ESIA, to be used to compare alternatives on the level of achievement of objectives and environmental and social impact. Therefore this paragraph should be linked to the paragraphs about problem definition and description of the project and alternatives.

■ The NCEA recommends to provide a more extensive description of the “reference situation”, which can be used to compare the project (and alternatives). This means the reference situation should be described along the same criteria and indicators that are used to judge environmental and social effects of the project. The NCEA recommends to move this section to § 2.3. (description of the project and alternatives).



### 3.3 Existing condition of environment (§ 2.2)

This paragraph contains a description of the existing condition of the environment, that is regarding air quality, noise level, water quality and water levels. While air quality and noise levels are usually determined through modelling, in this case measurements in the area were used. The measurements are detailed and indicate that existing air quality and noise levels are far below limit values. Because no modelling was used, the ESIA doesn't provide data on traffic loads on the existing road. This means the existing and future environmental quality can't be linked to traffic loads, which makes it difficult to predict future air quality and noise levels (also see 3.5).

§ 2.2.8 describes other activities in the area which may be relevant for the construction of the road. A hydro-power project and a wind park are mentioned, but not the exact location of both activities. Especially the hydro-power project could be of significant influence, because it involves formation of the "Nevesinje accumulation" (reservoir?) which will cause large areas of land to be flooded. Although the ESIA mentions possible conflicts between both activities, the exact implications are not clear.

- The NCEA recommends to specify potential conflicts between the reconstruction of the road and hydro-power project and to describe how the Government could deal with this potential conflict.

### 3.4 Description of the project (§ 2.3)

This section of the ESIA describes just one possible alignment for the R-435 section Vojne-Berkovici. The description of construction and modernisation of the road are partly very detailed, especially technical specifications of the road itself. For the part that follows the existing alignment this seems sufficient. However, the Cementara-Guvno section will be relocated to a new alignment with a length of 4,45 km. As mentioned before the reasons for relocation are not exactly clear. Moreover, the ESIA does not describe possible alternative courses for this section of the road.

As a consequence, it is not verifiable if relocation of the road solves existing problems and if the proposed new alignment is the best possible solution, from environmental and/or social point of view. It is thinkable that there are alternative courses with less environmental or social impact, but these are not taken into consideration.

- The NCEA recommends to describe one or more possible alternative courses for this section of the road which will be distinctive from the proposed alignment from environmental and/or social point of view. The NCEA recommends to add a map of the existing road, possible new alignments and its surroundings.

The materials (stone, concrete) and other aids (energy, water) that are needed are described, but not quantified. There is no information on quarries (location, available volumes), transport (volumes, routes) and storage (location, volumes) of materials. Also, possible risks of pollution by hazardous substances (from exhaust gases, heavy machinery, the construction itself and waste) is mentioned without quantification. Therefore it is difficult to determine the extent of these risks (see 3.5).

### 3.5 Possible environmental and social impacts (§ 2.4)

#### **Assessment framework**

This paragraph describes the possible environmental and social effects of the construction and modernisation of the R-435. For each aspect the effects are divided into “impacts during construction” and “impacts during road exploitation”. This subdivision helps understanding the possible impacts. However, to compare alternatives to the reference condition and among each other, an “assessment framework” is needed: which environmental and social issues and criteria are relevant and which indicators can be used to assess the effects against those criteria. To understand the results of the assessment it is necessary to explain the issues that were considered and the criteria and indicators that have been used to “score” alternatives on those issues. The NCEA notes that the ESIA lacks a clear assessment framework. § 2.4.14 and 2.4.15 provide a general description of methods and types of impacts, but no criteria or indicators. Because the assessment framework is missing, it is unclear and not verifiable how the impacts of the project (and alternatives) are judged and compared to the reference condition.

- The NCEA recommends to add an assessment framework, clarifying the most important environmental and social criteria for decision-making on the project and indicators that are used to score the project (and alternatives) along these criteria.

#### **Description of effects**

The NCEA notes that § 2.3.4 and 2.3.5 as well as 2.4.1.2. and 2.4.11 mention hazardous substances that may have environmental impact during construction (exhaust gases, dust, waste, spillages) or during road exploitation (runoff, incidents with hazardous substances). Possible impacts on air and water quality were mentioned, but not the impact on external safety. External safety could be relevant depending on the chance of incidents involving hazardous substances in the presence of residential areas.

- The NCEA recommends to specify which hazardous substances will be transported on this section of the R-435, during construction and during road exploitation. With this information safety risks for residential areas can be identified.

The NCEA notes that there is no separate description of the impacts from the new alignment (Cementara-Guvno section) of 4.45 km. As this is an area previously undisturbed, construction and exploitation of the road could lead to significant effects:

- As mentioned before, the ESIA does not specify the absence or presence of (protected) flora and fauna and their vulnerability. Therefore possible destruction of habitats and/or disturbance of species by construction of the new road is not verifiable.
- The same goes for possible impacts on landscape and cultural heritage (§ 2.1.9 of the ESIA mentions the high value of these elements!) and water quality.
- The ESIA states that the area where the new alignment is constructed is uninhabited, but other land use and ownership in this area is unclear. § 2.4.12.2 states that land dispossession in the new section will be necessary, but the actual impact is not clear as it will (partly) depend on land use. A “land expropriation procedure” is described, but it is unclear how much compensation (area and financial consequences) is needed.

- The NCEA recommends to specify the possible effects from the new alignment (and alternative alignments, as recommended in 3.4) using more specific data of the surroundings.

#### **Assessment of effects and comparing alternatives**

The ESIA describes possible environmental and social effects, but doesn't assess the significance/seriousness of these effects. For decision-making it is crucial that effects are not only described, but also evaluated. This means that the report should show which effects (positive as well as negative) will be most relevant, and how the effects differ across alternatives. § 2.7 provides a very brief comparison of "principle alternatives" (which is in fact only one alternative, compared to the reference condition) on a few general criteria and without proper explanation of the scores. According to the NCEA, this should be one of the key sections of the ESIA, which should be part of § 2.4.

- The NCEA recommends to add a table in which the environmental and social impacts of the project (and alternatives) are compared to the "reference situation". This table should contain the (most important) criteria and indicators used in the assessment and the 'scores' for the project (and alternatives) along these criteria. It is important to explain and account for the scoring of the alternatives. This means that the table with comparison results should be accompanied by a clear explanation of the effects and the differences between the alternatives.

### **3.6 Measures for prevention, reduction or mitigation (§ 2.5)**

This section contains measures to prevent, reduce or mitigate negative impacts from construction and exploitation of the road, leading to an Environmental and Social issues Management Plan (ESMP). Although this plan seems to contain the necessary measures and names the institutional responsibilities, the plan does not specify the costs. This means it is uncertain if there is enough budget to ensure that all measures will be taken, at the right time and in the right amount.

- The ESMP should be presented in a form allowing 1) easy consideration of the acceptability of the proposed project for the decision maker, and 2) once approved, easy implementation and monitoring, including designation of the organisations executing each measure and necessary budget requirements. Distinguish between measures which are absolutely necessary and measures which are optional, including their cost implications and responsibilities. The NCEA considers implementation of the ESMP essential to enhance objectives and sustainability of the project.

§ 2.5.1.8 prescribes how to deal with possible archaeological or geological findings during reconstruction of the road. According to this section the Contractor is responsible to notify the RS Republic Institute in case of these findings. The NCEA notes that it will be difficult to judge the potential value of these findings without specific archaeological or geological knowledge. Therefore, there is a risk that valuable findings will not be recognised and will be destroyed.

- The NCEA recommends to ensure that archaeological and geological expertise will be applied during construction activities.

### 3.7 Measures for monitoring (§ 2.6)

The NCEA has no observations regarding this chapter of the ESIA.

### 3.8 Overview of principal alternatives considered (§ 2.7)

As mentioned in 3.5 the comparison of possible alternatives is key to an ESIA. This section should therefore be more extensive and be part of the section that describes and evaluates the effects of the project, in this case § 2.4 of the ESIA.

### 3.9 Detailed social assessment analysis (Annex 1)

The annex provides extensive information on the involvement of stakeholders in the project planning. This shows that most stakeholders – including residents – support the construction and modernisation of the road. The NCEA notes that most of the questions that were used to interview the stakeholders involve the project itself, rather than possible negative impacts arising from construction and exploitation of the road.

- The NCEA recommends to inform stakeholders (especially inhabitants along the road) – using the information from the ESIA – about possible negative environmental and social impacts and measures that will be taken to prevent, reduce or mitigate these impacts.