Terminal Evaluation Review form, GEF Evaluation Office, APR 2014

# 1. Project Data

| Summary project data | |
|---|---|
| **GEF project ID** | 32 |
| **GEF Agency project ID** | 65996 |
| **GEF Replenishment Phase** | GEF-2 |
| **Lead GEF Agency (include all for joint projects)** | World Bank |
| **Project name** | Mini-hydropower Project |
| **Country/Countries** | Macedonia |
| **Region** | ECA |
| **Focal area** | Climate Change |
| **Operational Program or Strategic Priorities/Objectives** | STRM: Short-term Response Measures |
| **Executing agencies involved** | Project Implementation Unit (PIU) |
| **NGOs/CBOs involvement** | N/A |
| **Private sector involvement** | Secondary executing agencies |
| **CEO Endorsement (FSP) /Approval date (MSP)** | 12/01/1999 |
| **Effectiveness date / project start** | 04/20/2000 |
| **Expected date of project completion (at start)** | 12/31/2002 |
| **Actual date of project completion** | 06/30/2004 |

| Project Financing | | | |
|---|---|---|---|
| | | **At Endorsement (US $M)** | **At Completion (US $M)** |
| **Project Preparation Grant** | GEF funding | 0.146 | 0.146 |
| | Co-financing | | |
| **GEF Project Grant** | | 0.750 | 0.750 |
| **Co-financing** | IA own | | |
| | Government | 0.026 | 0.665 |
| | Other multi- /bi-laterals | 1.957 | 1.297 |

| | | | |
|---|---|---|---|
| | Private sector | 0.558 | 0.000 |
| | NGOs/CSOs | | |
| **Total GEF funding** | | 0.896 | 0.896 |
| **Total Co-financing** | | 2.541 | 1.962 |
| **Total project funding (GEF grant(s) + co-financing)** | | 3.437 | 2.858 |

| Terminal evaluation/review information | |
|---|---|
| **TE completion date** | 11/2004 |
| **TE submission date** | 11/2004 |
| **Author of TE** | N/A |
| **TER completion date** | 12/08/2014 |
| **TER prepared by** | Sean Nelson |
| **TER peer review by (if GEF EO review)** | Joshua Schneck |

## 2. Summary of Project Ratings

| Criteria | Final PIR | IA Terminal Evaluation | IA Evaluation Office Review | GEF EO Review |
|---|---|---|---|---|
| **Project Outcomes** | N/R | N/R | N/R | S |
| **Sustainability of Outcomes** | N/R | N/R | N/R | ML |
| **M&E Design** | N/R | N/R | N/R | MS |
| **M&E Implementation** | N/R | N/R | N/R | U/A |
| **Quality of Implementation** | N/R | N/R | N/R | S |
| **Quality of Execution** | N/R | N/R | N/R | S |
| **Quality of the Terminal Evaluation Report** | - | - | N/R | MS |

## 3. Project Objectives

3.1 Global Environmental Objectives of the project:

As stated in the Project Document (PD), the GEO was to lower GHG emissions in Macedonia. The National Environmental Action Plan (NEAP) in 1997 singled out air pollution as Macedonia's greatest environmental hazard. GHG emissions, especially CO2 emissions, due to power generation and heating were the biggest drivers of air pollution in the country. Reducing GHG emissions from the energy sector would require replacing lignite-fired plants with cleaner alternative sources. Of the 3 options available – hydroelectricity, geothermal and solar – hydroelectricity remained the most viable and had the greatest potential in Macedonia at the time. The project was expected to displace 3,200 tons of CO2 per year or about 96,900 tons of CO2 over a 30 year period.

3.2 Development Objectives of the project:

As stated in the PD, The project's Development Objective was "to meet the country's demand for electricity, while reducing air pollution" (PD, p. 5). Reducing GHG emissions from the energy sector would require replacing lignite-fired plants with cleaner alternative sources. Of the 3 options available – hydroelectricity, geothermal and solar – hydroelectricity remained the most viable and had the greatest potential in Macedonia at the time. This would be accomplished by increasing the mini-hydro installed capacity in Macedonia. The goal was to increase installed capacity by 1.2 MW and total annual hydroelectricity generation by 8.8 GWh. The project called for 2 new mini-hydro plants: the Debar plant and the Kavadarci plant. The project would also support creating Independent Power Producers (IPP), which would help promote sectoral reform. ESM, the national utility, would be required under law to buy electricity from the IPPs.

The project has the following 3 objectives that will be executed sequentially:

1) **Project Implementation Unit (PIU):** The project was to create the PIU to aid local city utilities in carrying out the project. It was to report to the Ministry of Economy which regulates electricity in Macedonia. In turn, ESM would assist the PIU on technical issues.

2) **Debar mini-hydro installations:** This single mini-hydro plant in Western Macedonia had a goal of 160 KW installed capacity and annual generation of 1.2 GWh. The local city utility JKP Standard was put in charge of carrying out this component.

3) **Kavadarci mini-hydro installations:** This collection of mini-hydro plants in South Central Macedonia had a goal of 1.04 MW installed capacity and annual generation of 7.6 GWh. The independent company JP Komunalec was in charge of carrying out this component.

3.3 Were there any **changes** in the Global Environmental Objectives, Development Objectives, or other activities during implementation?

The TE states that there were no changes to the GEOs or the DOs during implementation.

## 4. GEF EO assessment of Outcomes and Sustainability

Please refer to the GEF Terminal Evaluation Review Guidelines for detail on the criteria for ratings.

Relevance can receive either a Satisfactory or Unsatisfactory rating. For Effectiveness and Cost efficiency, a six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess. Sustainability ratings are assessed on a four-point scale: Likely=no or negligible risk; Moderately Likely=low risk; Moderately Unlikely=substantial risks; Unlikely=high risk. In assessing a Sustainability rating please note if, and to what degree, sustainability of project outcomes is threatened by financial, sociopolitical, institutional/governance, or environmental factors.

Please justify ratings in the space below each box.

| 4.1 **Relevance** | Rating: **Satisfactory** |
|---|---|

The project is relevant to both the GEF and the Government of Macedonia. For the GEF, the project was approved as a Short-Term Response Measures (STRM), due to the importance of hydropower to GEF objectives in terms of addressing climate change. Using renewable energy was key to expanding energy access while mitigating against GHG emissions. On the Macedonian side, the project grew out of the NEAP findings mentioned in section 3.1 of this document, which had been carried out with World Bank support. Macedonia's investment plans under Macedonia Investment Projects, October 96 called for building additional small-scale hydro projects.

| 4.2 **Effectiveness** | Rating: **Satisfactory** |
|---|---|

The TE does not provide a rating for effectiveness. This TER rates project effectiveness as satisfactory based on the evidence presented in the TE narrative.

**Summary:** According to the TE, the project surpassed its small hydro generation goals. While the Debar and Kavardaci installations originally had a combined goal of 1.2 MW of installed capacity generating 8.8 GWh annually, the project succeeded in installing 1.3 MW of capacity that generated 10.2 GWh annually. This was done under budget. The greater annual generation was partly due to longer operating hours. Multiple towns throughout Macedonia sent representatives to study the installations. The PIU made portfolios of potential projects to scale-up this project's approach. The World Bank has shown interest in financing renewable energy projects in Macedonia building off of this project. In addition, the project has unexpectedly helped increase local tax revenue by US$370,000 annually between Debar and Kavadarci. The project also increased communication and cooperation between the ethnic Macedonian and Albanian communities that otherwise had tense relations during the time of the project. According to the TE, "the project was selected for special recognition at the Johannesburg Summit on

Sustainable Development in 2002" (TE, p. 7).

With this said, the TE does not assess the amount of GHG displaced due to the project.

Progress towards achievement of expected results is detailed further below under each project component defined in the PD:

1) *Project Implementation Unit (PIU)* **Satisfactory**

The State Counselor for Energy, Ministry of Economy oversaw the PIU. Ministry officials, as well as local officials from Debar and Kavadarci, made up the PIU's membership. Under the PIU each local city utility chief ran a special implementation team. This approach ensured a high degree of stakeholder engagement and country ownership. In addition, according to the TE, this arrangement also prevented World Bank micromanagement of the project.

2) *Debar and Kavadarci mini-hydro installations* **Satisfactory**

Note: The TE does not break down the experience of the 2 towns separately, so they have been combined into a single component here.

The project increased installed mini-hydro capacity in the 2 project towns by a total of 1.3 MW. The installations have produced 10.2 GWh annually. Once the Slovene export credits are repaid, the installations are expected to generate a combined US$370,000 in revenue annually.

| 4.3 **Efficiency** | Rating: **Moderately Satisfactory** |
|---|---|

The TE does not provide a rating for efficiency. This TER rates efficiency as moderately satisfactory based on the evidence presented in the TE narrative.

**Summary:** According to the TE, the project was efficiently managed overall. However, the project finished a year-and-a-half behind schedule.

**Management Issues:** The PIU was able to overcome ethnic tensions between the Albanian and Macedonian community to achieve project goals, both within cities and across cities. The PIU chose a professor at the University of Skopje who was experienced in hydroelectricity, which appears to have aided project success. The TE does not mention any management issues.

**Financial Information:** All 3 components came in under budget. The budget came out to US$2.712 million, compared to an estimated US$3.092 million.

**Time Issues:** The TE mentions no delays to project execution. However, the project finished about a year-and-a-half behind schedule. This may have been due to the volatile political situation in Macedonia and the region at the time, which was beyond the PIU's control, but this is never addressed in the TE.

| 4.4 **Sustainability** | Rating: **Moderately Likely** |
|---|---|

The TE rated project sustainability as “very sustainable” (TE, p. 6). This TER rates sustainability as moderately likely due to the difficult sociopolitical situation in Macedonia at the time, though this was outside the project team's control.

**Summary:** The project's institutional and financial future appeared well-established as of the TE's writing. The political situation was unstable, but the PIU had managed such problems in the past.

The project’s sustainability is assessed according the following 4 risk factors.

Environmental: **Unable to Assess**

The TE does not include any information on environmental risks to project sustainability.

Sociopolitical: **Moderately Likely**

The Macedonian political environment was unstable at the time due to ethnic tensions and a refugee crisis. However, the PIU and its partners had shown an ability to manage project activities in the face of these challenges. In addition, the Macedonian government was supportive of small-scale hydroelectricity.

Institutional: **Likely**

The PIU was made up of key stakeholders who were committed to project success. The PIU was promoting the project's model at the time to other towns in Macedonia that seemed interested in replicating the project.

Financial: **Likely**

The installations' expected revenues were higher than their operating costs. For these installations, they were expected to be financially sustainable once the PIU finished paying off the export credits.

## 5. Processes and factors affecting attainment of project outcomes

5.1 Co-financing. To what extent was the reported co-financing essential to the achievement of GEF objectives? If there was a difference in the level of expected co-financing and actual co-financing, then what were the reasons for it? Did the extent of materialization of co-financing affect project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

The estimated US$100,000 of bilateral grants to the PIU were not delivered, but the TE does not explain what happened. The TE also does not explain why the support from Stopanska Bank was not delivered. The export credits to Debar (an actual US$147,000 versus an estimated US$200,000) and Kavardaci (US$1.150 million versus US$1.327 million) were below estimations. The contribution of the Macedonian government (an actual US$20,000 versus US$26,000), Kavardaci (US$510,000 versus US$564,000) and Debar (US$135,000 versus US$125,000) were largely in line with expectations. The TE does not establish what effect the level of co-financing had on project outcomes.

5.2 Project extensions and/or delays. If there were delays in project implementation and completion, then what were the reasons for it? Did the delay affect the project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

The TE mentions no delays to project execution. However, the project finished about a year-and-a-half behind schedule. This may have been due to the volatile political situation in Macedonia and the region at the time, which was beyond the PIU's control, but this is never addressed in the TE.

5.3 Country ownership. Assess the extent to which country ownership has affected project outcomes and sustainability? Describe the ways in which it affected outcomes and sustainability, highlighting the causal links:

The project was a Macedonian idea, which ensured a high degree of country ownership. The PIU chose a professor at the University of Skopje who was experienced in hydroelectricity, which appears to have aided project success. Not only did the PIU achieved its goals in Debar and Kavadarci, it also helped to promote the project's approach and was looking to expand into other cities.

## 6. Assessment of project's Monitoring and Evaluation system

Ratings are assessed on a six point scale: Highly Satisfactory=no shortcomings in this M&E component; Satisfactory=minor shortcomings in this M&E component; Moderately Satisfactory=moderate shortcomings in this M&E component; Moderately Unsatisfactory=significant shortcomings in this M&E component; Unsatisfactory=major shortcomings in this M&E component; Highly Unsatisfactory=there were no project M&E systems.

Please justify ratings in the space below each box.

| 6.1 **M&E Design at entry** | Rating: **Moderately Satisfactory** |
|---|---|

The TE does not provide a rating for M&E Design. This TER rates M&E Design quality as moderately satisfactory based on the design of the M&E system detailed in the PD and comments in the TE.

According to the TE, the PIU was expected to submit reports to the World Bank every quarter on project progress, focusing largely on construction and awarding contracts. The reports would also include electricity generation and sales figures to help with GHG emissions reductions estimates. However, the M&E design did not specify particular indicators for construction, electricity generation, etc., so they cannot fully be considered to have meet GEF best practices criteria (project lacks SMART indicators). PD does provide indicators for overall project objectives and outcomes however, and these appear to be adequate for measuring overall project effectiveness. The PD provides baseline data for local electricity generation and emissions, but lacks a clear plan for establishing baseline data, indicators and targets for this project's hydroplant construction. The PD also schedules a Mid-Term Review (MTR), but lacks a dedicated M&E budget.

| 6.2 **M&E Implementation** | Rating: **Unable to Assess** |
|---|---|

The TE states that World Bank energy officials visited the PIU, Kavardaci and Debar as part of the M&E process. However, trips to Kavardaci and Debar could only be carried out when the security situation was less volatile. However, the TE does not provide any information on any M&E processes. It is unclear from the TE what the M&E processes found, how effective it was, and if its findings were used for adaptive management.

## 7. Assessment of project implementation and execution

Quality of Implementation includes the quality of project design, as well as the quality of supervision and assistance provided by implementing agency(s) to execution agencies throughout project implementation. Quality of Execution covers the effectiveness of the executing agency(s) in performing its roles and responsibilities. In both instances, the focus is upon factors that are largely within the control of the respective implementing and executing agency(s). A six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess.

Please justify ratings in the space below each box.

| 7.1 **Quality of Project Implementation** | Rating: **Satisfactory** |
|---|---|

The TE does not provide a rating for project implementation. This TER rated project implementation as satisfactory based on the evidence presented in the narrative of the TE.

The project was well-designed with clearly-defined end goals and a moderately thorough M&E design. The sections describing the situations in Debar and Kavadarci were detailed and showed a good understanding of local conditions. In addition, the project design put the responsibility for project progress on local stakeholders, which recognized that the project idea originated with local stakeholders. This increased local stakeholder buy-in and ownership of the project.

While the World Bank appears to have been active and engaged through the M&E process, the TE does not provide adequate details on the substance of M&E findings. The TE also does not say whether or not the World Bank provided useful and timely technical support and oversight.

| 7.2 **Quality of Project Execution** | Rating: **Satisfactory** |
|---|---|

The TE does not provide a rating for project execution. This TER assesses project execution as satisfactory based on the evidence presented in the narrative of the TE. The project benefited from the expertise of the PIU's manager, who was a professor at the University of Skopje who was experienced in hydroelectricity, which appears to have aided project success. The project faced difficulties beyond the project's control due to a volatile political situation. The Kosovo War caused both instability and a large wave of refugees into Macedonia during the project. In addition, ethnic tensions between the Albanian and Macedonian communities also caused instability in the country. Debar and Kavadarci have different ethnic majorities, but the project team was able to overcome these divides and work together, both within and between cities. Work was carried out on all project components, often exceeding expectations.

# 8. Assessment of Project Impacts

***Note - In instances where information on any impact related topic is not provided in the terminal evaluations, the reviewer should indicate in the relevant sections below that this is indeed the case and identify the information gaps. When providing information on topics related to impact, please cite the page number of the terminal evaluation from where the information is sourced.***

8.1 Environmental Change. Describe the changes in environmental stress and environmental status that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

The TE does not note any environmental changes due to the project.

8.2 Socioeconomic change. Describe any changes in human well-being (income, education, health, community relationships, etc.) that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities

contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

The project increased installed small hydroelectricity capacity in the country by 1.3 MW, generating 10.2 GWh annually (TE, p. 5). Debar and Kavadarci will receive roughly a combined US$370,000 each year from hydroelectricity revenue once they pay off the Slovene export credits (TE, p. 6).

8.3 Capacity and governance changes. Describe notable changes in capacities and governance that can lead to large-scale action (both mass and legislative) bringing about positive environmental change. "Capacities" include awareness, knowledge, skills, infrastructure, and environmental monitoring systems, among others. "Governance" refers to decision-making processes, structures and systems, including access to and use of information, and thus would include laws, administrative bodies, trust-building and conflict resolution processes, information-sharing systems, etc. Indicate how project activities contributed to/ hindered these changes, as well as how contextual factors have influenced these changes.

a) Capacities

The PIU increased stakeholder engagement on small hydroelectricity issues on both the national and the local level (TE, p. 6).

b) Governance

The country underwent Macedonian-Albanian ethnic tensions during the project's life and Debar and Kavardaci have different ethnic compositions. However, the project showed groups like the PIU can work across ethnic groups to achieve common goals (TE, p. 7).

8.4 Unintended impacts. Describe any impacts not targeted by the project, whether positive or negative, affecting either ecological or social aspects. Indicate the factors that contributed to these unintended impacts occurring.

The project showed that working across ethnic divides was possible when working towards common goals (TE, p. 7).

8.5 Adoption of GEF initiatives at scale. Identify any initiatives (e.g. technologies, approaches, financing instruments, implementing bodies, legal frameworks, information systems) that have been mainstreamed, replicated and/or scaled up by government and other stakeholders by project end. Include the extent to which this broader adoption has taken place, e.g. if plans and resources have been established but no actual adoption has taken place, or if market change and large-scale environmental benefits have begun to occur. Indicate how project activities and other contextual factors contributed to these taking place. If broader adoption has not taken place as expected, indicate which factors (both project-related and contextual) have hindered this from happening.

The project had not yet been brought to scale outside of Debar and Kavadarci. However, multiple Macedonian towns had sent representatives to the 2 project towns. The PIU had created portfolios on potential towns for project expansion (TE, p. 5).

## 9. Lessons and recommendations

9.1 Briefly describe the key lessons, good practices, or approaches mentioned in the terminal evaluation report that could have application for other GEF projects.

- This project succeeded because it was originally a Macedonian idea, so it had a strong level of country ownership and commitment to success.
- Such projects are more successful when they trust engaged local stakeholders to execute the project, as opposed to being micromanaged by World Bank staff in the US.
- When outside political events cause complications, executing agencies should continue pushing ahead.

9.2 Briefly describe the recommendations given in the terminal evaluation.

The TE does not include any specific recommendations for the future of the project.

## 10. Quality of the Terminal Evaluation Report

A six point rating scale is used for each sub-criteria and overall rating of the terminal evaluation report (Highly Satisfactory to Highly Unsatisfactory)

| Criteria | GEF EO comments | Rating |
|---|---|---|
| To what extent does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives? | The TE provides quality information on the PIU's experience, though it could have gone into greater detail over how it was able to overcome ethnic tensions during project execution. With this said, the TE combines information and the Debar and Kavadarci experiences without giving any local details, including only giving joint electricity generation numbers. | **MS** |
| To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated? | The report is internally consistent and its ratings appear fair, though each section could have included greater details and explanations for why the project was able to come in under budget. | **MS** |
| To what extent does the report properly assess project sustainability and/or project exit strategy? | The TE is convincing on financial sustainability. However, it provides little analysis of how the sociopolitical situation would affect the PIU moving forward. | **MS** |
| To what extent are the lessons learned supported by the evidence presented and are they comprehensive? | The lessons learned are evidence-based. However, they are not comprehensive and only include 3 points. For instance, this section could have addressed how to overcome ethnic tensions to achieve project objectives in future projects, but failed to do so. | **MU** |
| Does the report include the actual project costs (total and per activity) and actual co-financing used? | The project provides actual project costs per project component, including co-financing numbers. However, it does not address why some co-financing was never delivered. | **MS** |
| Assess the quality of the report's evaluation of project M&E systems: | The project makes it clear that the World Bank remained engaged during the M&E process, but does not provide any specifics over what the M&E process uncovered. No mention if made of the MTR and any PIRs. | **MU** |
| | | |
| **Overall TE Rating** | | **MS** |

**Overall TE rating: (0.3 * (4+4)) + (0.1 * (4+3+4+3)) = 2.4 + 1.4 = 3.8 = Moderately Satisfactory**

## 11. Note any additional sources of information used in the preparation of the terminal evaluation report (excluding PIRs, TEs, and PADs).

N/A