Adaptation to Climate Change Impacts in Mountain Forest Ecosystems of Armenia

Armenia

GEF Agency: United Nations Development Programme
Executing Agency: Ministry of Nature Protection

GEF Climate Change Focal Area
GEF Operational Program: Strategic Priority on Adaptation
Medium-sized Project
GEF ID: # 3417 / UNDP PIMS: # 3814
UNDP Atlas Project Number: #00063634

Mid-term Evaluation

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Acronyms

CAF	Cancun Adaptation Framework
CBD	Convention on Biological Diversity
CCU	Climate Change Unit (of the Ministry of Nature Protection)
DRR	Deputy Resident Representative
ENPI	European Neighborhood and Partnership Instrument
EU	European Union
FLEG	Forest Law Enforcement and Governance
FREC	Forest Research and Experimental Center
GEF	Global Environment Facility
ha	hectares
Km	Kilometers
M&E	Monitoring and evaluation
METT	Management Effectiveness Tracking Tool
MoES	Ministry of Emergency Services
MoNP	Ministry of Nature Protection
MSP	Medium-size Project (of the Global Environment Facility)
N/A	Not Applicable
NEX	National Execution
NGO	Non-governmental Organization
N/S	Not Specified
PIR	Project Implementation Report
PPG	Project Preparation Grant
SGP	Small Grants Programme
SNCO	State Non-commercial Organization
SPA	Strategic Priority on Adaptation
UA	Unable to assess
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States dollars
WWF	World Wildlife Fund

I. Executive Summary

1. The Armenia Forest Adaptation project is a Global Environment Facility (GEF) supported Medium-size Project (MSP) with $0.90 million in GEF funding (excluding agency fees and project development funding) and expected co-financing of $1.9 million, for a total budget of $2.8 million. The project is implemented under the United Nations Development Programme's (UNDP) National Execution (NEX) modality, with the Climate Change Unit (CCU) of the Ministry of Nature Protection (MoNP) as the main executing partner. Project implementation began in May 2009, and the project inception workshop was held in July 2009. The project is currently scheduled to reach completion in November 2012, although the total implementation period was originally planned for 48 months.

2. As stated in the project document, the project's objective is "*to enhance adaptive capacities of the vulnerable mountain forest ecosystems to climate change in the Syunik region*." To execute the strategy, the project includes the following three anticipated outcomes:

Outcome 1: The enabling environment for integrating climate change risks into forest sector management is in place;

Outcome 2: Forest and protected area management in the Syunik region integrates pilot adaptation measures to enhance adaptive capacity of mountain forest ecosystems;

Outcome 3: Capacities for adaptive management, monitoring and evaluation, learning, and replication of project lessons are developed.

3. The project was designed to address the climate change vulnerabilities of Armenia's forests in the Syunik region. Based on the project preparation work, including a detailed vulnerability assessment, the key climate related risks to forests in the region are the potential for increasing pest infestation, and increasing forest fires. Increasing temperature and aridity of the region is also expected to result in a loss of total forest area of approximately 8% by 2100, as the lowest level of forest boundary shifts up-slope.

4. Project **relevance** is considered *satisfactory*. The project supports Armenia's national priority of conserving its limited forest resources, and the project targets a region of Armenia that has been identified as among the most highly vulnerable to climate change impacts. The project strategy is relevant to addressing the key climate change threats in the Syunik region. The project is also relevant to the objectives of the GEF's Strategic Priority on Adaptation (SPA), and supports Armenia's obligations under the United Nations Framework Convention on Climate Change (UNFCCC) and Convention on Biological Diversity (CBD).

5. Project **efficiency** is rated *satisfactory*, as the project implementation approach and financial management procedures ensure that the project is cost-effective. The CCU implements multiple donor funded projects, which have the ability to efficiently share administration and support costs rather than any single project bearing the cost of a single stand alone administrative unit. Strong communication and coordination among project stakeholders, including the Project Board, which is the primary oversight mechanism, also supports efficient execution. Strong stakeholder participation and ownership is one of the project's hallmarks. The project has also demonstrated a keen ability to take advantage of synergies by partnering with other relevant initiatives.

6. The **effectiveness** of project activities and execution thus far, and overall progress toward achievement of objectives and outcomes, is *satisfactory*. The project is well on-track to complete most if not all planned activities by the end of the implementation period. Highlights of project results thus far include the reforestation of approximately 55 hectares across the three pilot sites: Goris, Kapan and Meghri. Reforestation activities were carried out by local stakeholders, including the temporary employment of over 100 local community members, and involving school children at the Meghri site. Numerous technical reports were produced with project support that are providing the basis for integrating climate change adaptation considerations into forest management in Armenia. The project is also strengthening the fire management capacity of the relevant stakeholders in Syunik marz.

7. Once complete, the project will have contributed significantly to increasing the climate resilience of the forests of Syunik marz. The project results must be sustained however; this mid-term evaluation rates **sustainability** as *moderately likely*, but the prospects for sustainability should be clearer by the end of the project.

8. The table below summarizes, in the view of this evaluation, the important priorities and risk factors for the remaining project implementation period. This evaluation has not identified any significant risks for the remaining implementation period, although there may be other risks or priorities deemed important by project partners and stakeholders to which attention should be paid. Ongoing risk monitoring and assessment is critical for adaptive management and successful project implementation.

Table 1 Key Priorities for Remaining Implementation Period

Priority	Issue Summary	Priority Actions / Risk Mitigation
Priority: Ensuring sustainability for reforestation activities for the necessary time after project close	Planted seedlings in the reforestation pilot sites require a minimum of five years of maintenance and care to ensure long-term viability. The project is only a four-year project, and a majority of the planting has taken place in the middle portion of the project. Thus resources will be required to sustain maintenance of the pilot sites for approximately three years beyond the completion of the project.	By at least the beginning of the final year of the project, there should be a focus on ensuring resources will be available to support the maintenance of the reforested pilot sites. There is currently a verbal agreement with Hayantar State Non-commercial Organization (SNCO) that they will continue to support the sites after the project is completed – this agreement should be formalized in writing, with specification of the required financial resources that will be required to support the maintenance of the sites for the required three years after project close. At the same time, additional potential sources of support should be explored, with specific agreements in place if possible. For example, it has been suggested that Arevik National Park could use resources expected to be received from the Caucuses Nature Fund to support ongoing maintenance of the Meghri site (located in Arevik National Park). On the whole, exit strategy planning for all aspects of the project should be carried out during the final year of the project. Various project results may require follow-up after project completion, such as ensuring implementation of forest management plans with climate change adaptation

		considerations, maintenance of fire-fighting equipment, and environmental monitoring.
Priority: Integration of climate change adaptation management recommendations in Forest Enterprise management plans.	The project is producing technical recommendations for integration of climate change adaptation management in the 10-year management plans that have already been produced for the various Forest Enterprise units. It is anticipated that these recommendations will be formally incorporated in the forest management plans.	Considering that the forest management plans specify the management measures for Armenia's forests, the integration or mainstreaming of climate change adaptation planning and management in the Forest Enterprise management plans will likely be the most significant long-term result for the project. The project team has identified the necessary legal strategy for formal incorporation of these recommendations, and there are no specific risks foreseen for this activity. However, given the importance of this activity and the fact that official government processes often take longer than expected, the project team should pay particular attention to this activity to ensure completion by the end of the project.
Priority: Completion of testing of biological pest control	As highlighted above, there are a number of remaining steps for successful piloting of the biological pest control agent – contracting an appropriate manufacturer, synthesizing adequate quantities, dispersing for testing in the field, and monitoring to assess effectiveness at a broad scale. There is only one year remaining in which this could be carried out, as even with a six month project extension (to May 2013) there would not be time to apply the control agent before the pest season and monitor the results.	Pushing the testing process forward should remain a priority for the project team over the coming 12 months to ensure that a field trial is achieved. Without testing under this project the level of knowledge and expertise with regard to biological pest control is not likely to advance significantly in Armenia in the near future.
Priority: Focus on fire prevention and control measures	There are currently not adequate laws and regulations in place to legally control anthropogenic-based fires, and intentional burning of agricultural fields continues to be a major threat. The project has thus fare invested heavily in fire fighting equipment, but fire prevention is also critically necessary.	A multipronged strategy for fire prevention is necessary. A significant continuous information and awareness campaign at the community level is necessary to combat the perception that uncontrolled burning of agricultural fields is acceptable. Education and awareness on fire control should be conducted directly with the relevant local stakeholders, but could also be instituted broadly through school level campaigns, and other mechanisms, even taking as an example the "fire danger" rating system employed in the United States, and the "Smokey the Bear" public awareness campaign. Fire fighting capacity, and legal enforcement measures are also important, but investing in prevention and control measures may provide a better long-term return on investment.

9. Below are the key recommendations of this evaluation report. Based on the good progress of the project thus far, and its demonstrated capacity for adaptive management, this evaluation has relatively few key recommendations for the remaining implementation period. Additional minor recommendations are included at the end of the report. Following the key recommendations below is the overall summary mid-term evaluation ratings table. A version of this ratings table with short qualitative summaries for each rating given is included at the end of this report.

10. ***Key Recommendation:*** The project team has identified the necessary legal strategy for formal incorporation of forest management recommendations related to climate change adaptation, and there are no specific risks foreseen for this activity. However, given the importance of this activity and the fact that official government processes often take longer than expected, the project team should pay particular attention to this activity to ensure completion of this critical activity by the end of the project. [*Project Team*]

11. ***Key Recommendation:*** This evaluation recommends that, to clarify the potential use of "scenario planning" as an input to the revision and development of forest management plans, the project team should investigate and discuss the tool of "scenario planning" for climate change in forest management (potentially with the input of international expertise), and share information about this tool with the Forest Research and Experimental Center (FREC) for inclusion, as appropriate, in Forest Enterprise management plans. It would also be appropriate for the project to focus on assisting data users in developing need-based data requests to be addressed at the national level. Along similar lines, the scope of the activity on the establishment of an "an early warning and response system" should be clarified. [*Project Team, Project Partners*]

12. ***Key Recommendation:*** This evaluation recommends a 6-12 month no-cost extension to facilitate the originally planned 48-month implementation period. The officially expected completion date has as yet not been changed from November 2012, although the project did not begin implementation until six months later than expected, in May 2009 rather than November 2008. The current rate of budget disbursement should allow such an extension. [*UNDP Country Office, Project Team, Executing Partners*]

Project Mid-term Evaluation Rating Summary

Project Component or Objective	Rating
Project Formulation	
Relevance	S
Conceptualization/design	S
Stakeholder participation	S
Project Implementation	
Implementation Approach (Efficiency)	S
The use of the logical framework	S
Adaptive management	HS
Use/establishment of information technologies	S
Operational relationships between the institutions involved	S
Financial management	S
Monitoring and Evaluation	S
Monitoring and evaluation design	MS
Monitoring and evaluation budgeting	S
Monitoring and evaluation implementation	HS
Stakeholder Participation	S
Production and dissemination of information	UA / S
Local resource users and civil society participation	S
Establishment of partnerships	S
Involvement and support of governmental institutions	HS
Project Results	
Overall Progress Toward Achievement of Objective and Outcomes (Effectiveness)	S
Outcome 1: The enabling environment for integrating climate change risks into forest sector management is in place	S
Outcome 2: Forest and protected area management in the Syunik region integrates pilot adaptation measures to enhance adaptive capacity of mountain forest ecosystems	S
Outcome 3: Capacities for adaptive management, monitoring and evaluation, learning, and replication of project lessons are developed	UA / S
Sustainability	ML
Financial sustainability	ML
Sociopolitical sustainability	L
Institutional and governance sustainability	L
Ecological sustainability	ML
Overall Project Achievement and Impact	**S**

Ratings explanation: HS – Highly Satisfactory; S – Satisfactory; MS – Moderately Satisfactory; MU – Moderately Unsatisfactory; U – Unsatisfactory; HU – Highly Unsatisfactory; UA – Unable to Assess; N/A – Not Applicable
Sustainability Ratings: L – Likely; ML – Moderately Likely; MU – Moderately Unlikely; U - Unlikely

II. Introduction: Evaluation Scope and Methodology

13. According to GEF and UNDP evaluation policies, mid-term evaluations are required for GEF funded projects. This mid-term evaluation was a planned activity of the monitoring and evaluation plan of the Armenia Forests Adaptation project, and the evaluation has been carried out at the mid-point of the expected four-year implementation period. This mid-term evaluation reviews the actual performance and progress toward results of the project against the planned project activities and outputs, based on standard evaluation criteria: relevance, efficiency, effectiveness, results and sustainability. The evaluation assesses project results based on expected outcomes and objectives, as well as any unanticipated results. The evaluation will identify relevant lessons for other similar future projects in the future in Armenia and elsewhere, and will provide recommendations for the remaining implementation period as necessary and appropriate.

14. In addition to assessing the main GEF evaluation criteria, the evaluation provides the required ratings on key elements of project design and implementation. Further, the evaluation will, when possible and relevant, assess the project in the context of the key GEF operational principles such as country-drivenness, and stakeholder ownership, as summarized in Annex 3.

15. The evaluation methodology was based on a participatory mixed-methods approach, which included three primary elements: a) a desk review of relevant project documentation and other documents; b) interviews with key project participants and stakeholders; and c) a field visit to the Syunik region project sites in south eastern Armenia. The evaluation is based on evaluative evidence from the start of project implementation (May 2009) to June 2011, and includes an assessment of project design. The desk review was begun in June 2011, with the evaluation mission carried out from June 9 – June 15, 2011.

16. All evaluations face challenges in terms of the time and resources available to adequately collect and document evaluative evidence. With additional time, more stakeholder viewpoints and relevant data could have been gathered for this mid-term evaluation. Also, understandably some documents were available only in Armenian language, but all key documents were available in English, which ensured that language was not a critical issue in analysis of the evaluative evidence. Altogether the challenges were not significant for this evaluation, and the evaluation is believed to represent a fair and accurate assessment of the project.

17. The evaluation was conducted in accordance with UNDP and GEF monitoring and evaluation policies and procedures, and in-line with United Nations Evaluation Group norms and standards.

18. The intended users of this mid-term evaluation are the project team and UNDP country and regional offices. As relevant, the mid-term evaluation report may be disseminated more widely with additional stakeholders to substantiate adaptive management decisions or share lessons and recommendations.

III. Project Overview and Development Context

A. Development Context

19. Armenia is a land locked nation in the southwestern region of the Caucuses, with a total land area of 29,743 square kilometers. The majority of the country is mountainous, with more than three-quarters of the country at more than 1,000 meters elevation. According to the project document, 46.8% of the land area is agricultural land, 5.6% is covered by water (notably by Lake Sevan), 7.4% is specially protected nature areas, 5.4% is developed lands, 23.6% is "other", and 11.2% is forest. The actual percentage of the forest area remains uncertain, as various sources give a figure +/- a few percentage points of the figure cited here.

20. Armenia has a population of approximately 3.26 million people,[1] and is considered to have an even larger diaspora. The population translates to a population density of 108.4 persons per square kilometer; however, the population is quite urbanized, with 1.1 – 1.3 million people in the area of the capital city of Yerevan.[2] The GDP per capita at purchasing power parity is estimated at $5,700[3] ranking 141st globally, and Armenia ranks 76th in the Human Development Index.[4] Approximately 98% of the population is ethnically Armenian[5] and the country has a greater than 99% literacy rate.[6] The unemployment rate was estimated at 7.1% in 2007, and in 2006 26.5% of the population was estimated below the poverty line.[7]

21. Administratively the country is divided into 11 regions, known individually as a "marz". Syunik marz, the focus of the main project activities on the ground, is in the southeast of the country. It is 4,506 square kilometers, or 15.1% of the national territory. Syunik marz has impressive geographic relief, with numerous mountain peaks and valleys. In the Soviet period the region was divided further into four districts – Sisian, Goris, Kapan, and Meghri. Project reforestation pilot sites are located in each of the latter three districts, as further described in Section III.B.iii, below. According to the project document, the population of Syunik is 152.9 thousand (4.74% of the national population), with a poverty rate of 25.3% (below the national average), even though the unemployment rate is 15.4%, approximately double the national average.

22. The Syunik region is also well known for its biodiversity, as it sits within the Caucasus-Anatolian-Hyrcanian Temperate Forests Ecoregion, as identified by WWF among the Global 200 Ecoregions. As described by the project document, "There are more than 120 endemic plant species. The fauna is very diverse and rich as well. All the classes of terrestrial vertebrates are represented in Armenia by more than half of Caucasian fauna species. 86 species of mammals

[1] "News.am". World Economic Outlook Database, October 2009. IMF. Retrieved January 1, 2011.

[2] "Population of each district in Yerevan according to the city's official website". Yerevan.am. Retrieved July 2, 2010.

[3] 2010 estimate, in 2010 US dollars. CIA World Factbook.

[4] United Nations. 2010. "Human Development Report 2010."

[5] Asatryan, Garnik; Arakelova, Victoria (Yerevan 2002). The Ethnic Minorities of Armenia.

[6] 2010 CIA World Factbook. https://www.cia.gov/library/publications/the-world-factbook/geos/am.html.

[7] Ibid.

(of the total 153 known from Caucasus), about 350 species of birds (of 400), 53 species of reptiles (of 77) and 8 species of amphibians (of 14) are represented here."

23. Armenia's total area classified as forest land is approximately 373,000 hectares, with 308,500 hectares actually "forest covered." The most heavily forested areas are in the north of the country (62.5%), and in the southeast of the country in Syunik marz (21.6%), with 72,000 hectares of forest land.[8] Figure 1 below shows forest cover (green shading) in Armenia based on remote sensing data.

Figure 1 Forest Cover in Armenia *(Landsat 2006)*[9]

24. The "Legislation and policy context" section of the project document outlines in detail the various relevant forest-related laws in place in Armenia. The most significant of these are the "National Forest Program of the Republic of Armenia" (2005) and the "Forest Code of the Republic of Armenia," (2005) which replaced the previous 1994 Forest Code. Overall forest management is overseen by "Hayantar," the State Non-Commercial Organization (SNCO) responsible in this capacity. Under the umbrella of Hayantar there are 19 regional "forest enterprises"[10] responsible for managing forests in their respective areas. As required by the Forest Code, forest management plans are being developed for the areas managed by each of the individual forest enterprises. Thus far the government technical agency FREC has developed

[8] Republic of Armenia, "Second National Communication on Climate Change," September 2010.

[9] Source: Project document.

[10] There are actually technically only 18 Forest Enterprises now that Meghri Forest Enterprise has been converted into Arevik National Park; there were 19 Forest Enterprises at the time of project development.

15 plans (with 10 approved by government), while three remain to be completed. Forest management in Syunik is handled by four forest enterprises (corresponding to each of the four Soviet-era districts). These are, in turn, divided into a total of 13 forestry units.

25. Some potential climate change trends have already been identified in Syunik marz. According to project literature, compared to the 1961-1990 mean, precipitation in Syunik marz has decreased by 9%, particularly in the summer months. In Meghri, the most arid sub-district, rainfall in June has decreased by 60%. The average temperature compared to the historical mean has increased by 0.7° C, and the annual number of days reaching greater than 25° C has increased by 10 in Meghri, and by 21 in Kapan and Goris.

B. Concept Development and Project Description

i. Concept Background

26. The project concept was born from Armenia's historically active participation in the international realm on climate change issues, as well as the opportunities created under the national forest policy reforms in the 2004-2006 timeframe. Armenia first received GEF support in the climate change focal area in 1995, submitted its first national communication in 1998,[11] and government officials have served in active roles in UNFCCC committees. As part of the rationale for project development, stakeholders also cited the need for Armenia to move ahead on implementation of its commitments under the CBD and the UNFCCC. On this basis, this project concept was developed as one of the few forestry focused projects to be supported under the GEF's initial SPA funding envelope.[12]

ii. Project Description

27. The project was designed to address the climate change vulnerabilities of Armenia's forests in Syunik marz. Based on the project preparation work, including a detailed vulnerability assessment, the key climate related risks to forests in the region are the potential for increasing pest infestation, and increasing forest fires. Increasing temperature and aridity of the region is also expected to result in a loss of total forest area of approximately 8% by 2100, as the lowest level of forest boundary shifts up-slope. The project document identifies the following barriers to addressing climate related risks for forests: a.) Forest management plans and practices that do not take climate change impacts into consideration; b.) Insufficient capacity at the institutional and individual level to monitor and respond to climate impacts; c.) Lack of comprehensive understanding of physical and biological changes resulting from climate change in the Syunik region; and d.) Lack of experience and examples of implementation of climate change adaptation measures.

28. At the practical field level, the project focuses on a few key threats, namely insect pest infestations in forest areas, and forest fires. Scientific research has shown that changes in climate are likely to increase the frequency and severity of insect pest infestations due to factors associated with the pest insects' reproductive biology. In addition, as conditions become

[11] GEF project ID 285, "Country Study on Climate Change,"; "First National Communication of the Republic of Armenia," October 1998.

[12] See further discussion on the Strategic Priority on Adaptation in Section IV.B on relevance.

warmer and drier (as is predicted for the Syunik region), fires are likely to increase. According to national and local experts, unlike in many parts of the world, fire is not a natural occurrence in the region and therefore plays no positive ecological role on the whole, although it can temporarily suppress populations of pest species. Fires in the region are virtually all human-caused, as farmers burn their fields to clear biomass, with a perception that burning fields also increases fertility of the soil. Unfortunately these fires are frequently unmonitored once started, and spread to surrounding forest areas. In addition, research has indicated that there is little practical benefit to burning of fields.[13]

29. As stated in the project document, the project strategy is to take an 'adaptive capacity enhancement' approach, with a focus on increasing the capacity of the south east mountain forest ecosystems for climate change resiliency, which will be achieved "by introducing flexible policies, spatial planning and management practices to enhance the inherent adaptability of the species and habitats and reduce trends in human-induced pressures that increase vulnerability to climate variability." According to the project document, "the long-term development goal is to assist Armenia in beginning a process by which strategies to moderate, cope with, and take advantage of the consequences of climate change are enhanced, developed, and implemented. The specific objective of the project is *to enhance adaptive capacities of the vulnerable mountain forest ecosystems to climate change in the Syunik region*." To execute the strategy, the project includes the following three anticipated outcomes:

Outcome 1: The enabling environment for integrating climate change risks into forest sector management is in place;

Outcome 2: Forest and protected area management in the Syunik region integrates pilot adaptation measures to enhance adaptive capacity of mountain forest ecosystems;

Outcome 3: Capacities for adaptive management, monitoring and evaluation, learning, and replication of project lessons are developed.

30. The project is a GEF-funded MSP, with $0.90 million in GEF funding,[14] and proposed co-financing of $1.90 million, for a total project budget of $2.8 million. Table 4 in Section IV outlines the original planned project budget and expenditure to date by outcome, and Table 5 shows a breakdown of planned and actual co-financing to date. The project is implemented under UNDP's NEX modality, with the MoNP as the main government executing partner.

31. Table 2 below provides a summary of the key project milestone dates. According to project documents, the GEF PIF and Project Preparation Grant (PPG) approvals were received in November 2007. Final GEF approval of the full MSP was received in October 2008, and UNDP internal approval was then achieved in December 2008. Project implementation did not begin until mid-2009, with the inception workshop held July 2nd, 2009 in Yerevan. Thus the total project approval period was approximately 18 months – significantly shorter than the pre-GEF-4 average for MSPs of 30 months. This may be a reflection of the revisions to the GEF project cycle implemented in GEF-4, but also reflects efficient execution of the preparation phase.

[13] Among the technical papers commissioned by the project is the paper "Current European Policies and Experience on Burning of the Stubble Fields and Organic Residues in Agriculture and Forestry Sectors" which further discusses this issue.

[14] Excluding the PPG of $50,000 and agency fees of $95,000.

32. The approval and implementation start timing (in May 2009) was approximately six-months later than the original project milestone timing for project start (November 2008), but the originally planned project completion date of November 2012 has not yet been officially revised (according to current project documents) to reflect this schedule. As further discussed in Section IV.E on project financial planning, this evaluation recommends that the project board consider extending the official project completion date by 6-12 months (on a no-additional-cost basis), to at least ensure the project has the originally envisioned 48 month implementation period in which to carry out the planned activities.

Table 2 Armenia Forests Adaptation Project Key Dates[15]

Milestone	Expected date	Actual date
Project Information Form (PIF) Approval	Not Applicable	November 12, 2007
PPG Approval	November 2007	November 20, 2007
GEF Approval	Not Specified	October 27, 2008
Agency Approval	Not Specified	December 12, 2008
Implementation Start (first disbursement)	November 2008	May 6, 2009
Mid-term Evaluation	June 2011	June 2011
Project Operational Completion	November 2012	Not Applicable
Terminal Evaluation Completion	May 2013	Not Applicable
Project Financial Closing	December 2013	Not Applicable

iii. Reforestation Pilot Site Selection and Description

33. As part of the project development process a comprehensive climate change vulnerability assessment of Armenian forest areas was conducted, which led to the selection of the pilot sites. Under Armenia's vulnerability and adaptation stocktaking exercise, within the forest sub-sector, Syunik was determined to have the greatest vulnerability among forested regions of Armenia. Within Syunik the three pilot sites described below were selected based on their particular characteristics of degradation and climate change vulnerability. Figure 2 below shows the location of the selected pilot sites within Syunik marz.

34. Goris Pilot Site (1): The site is a total of 15 hectares divided into four sectors across a 10 hectare area and a five hectare area. The lower elevations (below 1200m) in the area are primarily Eastern and Georgian Oak, while higher up (1300 – 1600m) a diversity of species predominates, including hornbeam, ash, maple, wild apple and wild pear. The areas selected for reforestation are between 1460 and 1480m in elevation, with the 10 hectare site at 30°, and the five hectare site at 15°. The fragmented site was selected because natural regeneration of the forest had not occurred after many years in the fragmented areas.

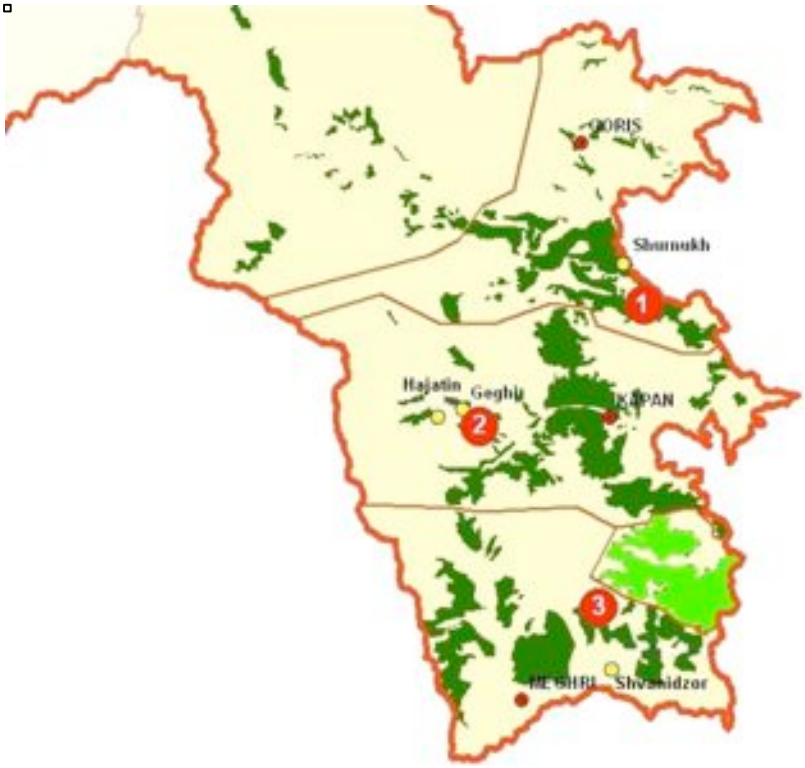
35. Kapan Pilot Site (2): Burned juniper restoration – The Kapan pilot site is 20 hectares divided amongst four sectors, between 1455 and 1540 meters in elevation, and between 24° - 35° slope. There are two species of junipers that grow in the area, *Juniperus polycarpos* and

[15] Note: Under the Strategic Priority on Adaptation the project approval process was slightly different than for regular MSPs. Thus, project cycle milestones are not consistent with those typically found in this table.

Juniperus foetidissima. An area burned in 2006 was chosen for reforestation, with the intention of increasing knowledge of juniper regeneration, for which there was no previous experience.

36. Arevik National Park Pilot Site (3): The Arevik pilot site is in the Meghri region, within the boundaries of the recently created Arevik National Park, which encompasses the boundaries of the former Meghri forest enterprise. The park was established in October 2009, and has an area of 34,400 hectares. The demonstration site covers 20 hectares, and is primarily oak forest. The site is divided into five sectors, between 1850 and 2190 meters in elevation, and between 20° - 34° slope. The area suffered a leaf pest infestation in 1999, followed by a fire in 2001. It is estimated that there are 2050 hectares that have leaf damage from pests, and 220 hectares that have burned. The site was also selected due to anticipated increased aridity in the region from climate change.

Figure 2 Pilot Sites for Adaptation Measures in Syunik Marz[16]



IV. Assessment of Project Design and Implementation

A. Assessment of Project Design

37. Given the various climate related risks to forests in the Syunik region, the project's multi-faceted strategy is an appropriate one. The risks from climate change are multiple and interrelated, and thus increasing resilience requires addressing a range of threats. In this case, the project is taking a two-by-two approach to multiple threats and barriers of on the one hand, site-specific vs. enabling environment measures, and on the other hand, prevention vs.

[16] Source: Project document.

response measures. The project strategy is focused on ensuring the resilience of forest ecosystems, but with the clear acknowledgement of and desire for synergistic results with respect to biodiversity conservation within the targeted forest ecosystems. The project document extensively describes the rich biodiversity resources found in the Caucuses region (as mentioned in Section III.A above on the project context), and specific activities in the project workplan are intended to achieve biodiversity conservation benefits, such as the testing of environmentally friendly biological control agents for forest insect pests. In addition, the adaptation strategies of afforestation, forest conservation, and forest pest control have been recognized as having potentially beneficial effects on biodiversity.[17]

38. Overall, stakeholders interviewed for this evaluation stated that in hindsight there are no major revisions that would have improved the project design, a view confirmed through the independent analysis of this evaluation. There are two minor issues related to the project design that could have been clarified prior to project implementation. The first relates to the reforestation activities, one of the main on-the-ground activities of the project. Successful reforestation can be challenging (as highlighted by the seedling survival rates at the pilot sites, as discussed in Section V.A.ii); as one member of the Arevik National Park staff noted, tree seedlings are "like infants" that require care and attention over multiple years until they have established root systems and are strong enough to maintain themselves. Required activities include watering a few times in the dry part of the year, and clearing of grass and brush around the planted site. To ensure the greatest possible success, for the conditions in the project pilot sites maintenance should be conducted for a minimum of five years, according to the forestry staff. However, the project is only a four-year project in total, and much of the planting has been done in the 2nd or 3rd years of the project. Thus there is an anticipated three-year period following the close of the project during which time the reforestation sites will need to be maintained before sustainability can be assured. As discussed in Section VI.A.i on financial sustainability, the project team is working to ensure measures are in place that will facilitate funding for the maintenance during the necessary period.

39. The second issue of the project design is that one of the key activities is to mainstream climate change related aspects and adaptation into forest management policies and plans in Armenia. The primary pathway for this mainstreaming is by incorporating climate sensitive forest management measures in the forest management plans for each of the regional forest enterprises under Hayantar (also discussed in Section V.A.i below). With the project's support, recommendations for incorporating climate aspects in forest management plans are being developed and will be submitted to Hayantar and FREC. FREC was responsible for developing the management plans for each of the forest enterprises. However, at the present time, only management plans for four forest enterprises remain to be developed. The project design likely could not change the timing of the forest management plan development process, but further planning and exploration could have been done to determine what procedures and requirements were necessary to incorporate the necessary climate change aspects in the already completed plans. Fortunately the project team has investigated these procedures and identified, in collaboration with key partners, the steps necessary to achieve this outcome.

[17] Paterson, et al. 2008. "Mitigation, adaptation and the threat to biodiversity," *Conservation Biology*, Vol. 22; pp. 1352-1355.

40. Strong stakeholder participation and ownership is one of the underlying currents of this project, and this originated with the project development process. According to stakeholders interviewed for this evaluation, the development process was participatory and inclusive, facilitating the integration of inputs and viewpoints from the range of relevant stakeholders involved. The project document includes a stakeholder analysis and involvement plan[18] that is among the most comprehensive and well-developed for GEF projects yet encountered by the evaluator. The stakeholder analysis breaks down relevant institutions and organizations by type and specifically details their roles, responsibilities and relevance vis-à-vis the project.

B. Project Relevance

41. Based on the assessment of project relevance to local and national priorities and policies, priorities related to relevant international conventions, and to the GEF's strategic priorities and objectives, overall project **relevance** is considered to be *satisfactory*.

42. At the national level, the project supports implementation of Armenia's environmental priorities, particularly related to biodiversity and climate change. Armenia's second National Environmental Action Program highlights the importance of sustainable use and conservation of forest ecosystems with respect to biodiversity conservation, as well as the need for adaptation measures to climate change for forest ecosystems.[19] Only a relatively small overall percentage of Armenia's national territory is forested, and the country must be proactive in conserving these areas. The project also supports the previously discussed National Forest Program and Forest Code, which recognizes forests as a national resource to be conserved and sustainably used for the benefit the people of Armenia. In addition, according to the project document, Armenia's second Poverty Reduction Strategy Paper framework "recognizes the significance of forests for realizing biodiversity conservation."

43. The project is also particularly relevant in the face of the need to adapt to climate change in specific regions of Armenia. The Second National Communication on Climate Change highlights the vulnerability of Armenia's southeast, where the project activities are focused:

> *"In southeastern forested marzes, forests will also be vulnerable along the lower boundary (starting from 600m). In addition to the worsening conditions for forest growth, the intensive infiltration of semi-desert plant species into forest areas is expected. As a result, it is expected that 5600 hectares (8%) of forest areas will be lost. The expected temperature rise and decline in precipitation will have a negative impact on the seeds regeneration in forests."*

44. Within the international context, the UNFCCC provides the basis for concerted international action to mitigate climate change and to adapt to its impacts.[20] Under the UNFCCC, the Cancun Adaptation Framework (CAF) was adopted in 2010, following negotiations under the Ad-hoc Working Group on Long-term Cooperative Action. The CAF addresses implementation, support, institutions, principles, and stakeholder engagement, as outlined in Table 3 below. The Armenia Forest Adaptation project is relevant in all respects in supporting adaptation measures under the UNFCCC, as codified in the CAF.

[18] See Section II.G of the project document.

[19] Republic of Armenia, "Second National Environmental Action Programme," August 1998.

[20] UNFCCC, "Climate Change: Impacts, Vulnerabilities, and Adaptation in Developing Countries," 2007.

Table 3 Cancun Adaptation Framework: Five Clusters[21]

Implementation	Support	Institutions	Principles	Stakeholder Engagement
Plan, prioritize, and implement adaptation actions	Long-term, scaled-up, predictable, new and additional finance, technology, and capacity-development to implement adaptation actions, plans, programs, and projects at local, national, sub-regional and regional levels.	At the **national level**: strengthening and where necessary, establishing and/or designation of national-level institutional arrangements	Undertaken in accordance with the Convention	Undertake and support enhanced action on adaptation at all levels by relevant multilateral, international, regional and national organizations
Formulate and implement national adaptation plans			Country-driven, gender-sensitive, participatory and fully transparent approach, taking into consideration vulnerable groups, communities and ecosystems	
Work program to consider approaches to address loss and damage associated with climate change impacts			Based on and guided by the best available science	
			Undertaken with a view to integrating adaptation into relevant social, economic, and environmental policies and actions	

45. Following the request of the UNFCCC Conference of Parties in 2001, the GEF developed the strategic priority called "Piloting an Operational Approach to Adaptation (SPA)," a special program with an initial allocation of $50 million from the GEF Trust Fund. The objective of the SPA is "to reduce vulnerability and increase adaptive capacity to the adverse effects of climate change" in the GEF focal areas.[22] The SPA funding window closed at the end of GEF-4, in June 2010[23]; the GEF Evaluation Office completed an evaluation of the SPA in October 2010.[24] The SPA supported pilot and demonstration projects that address local adaptation needs and generate global environmental benefits in the GEF focal areas. The operational guidelines briefly summarize key adaptation issues under each of the GEF focal areas, including examples for adaptation interventions. In the biodiversity focal area, forests are identified as a priority area of management concern with respect to climate change. The operational guidelines also highlight the opportunity through adaptation to address integrated approaches to environmental issues in climate change, biodiversity and desertification – issues focused on individually in relevant multilateral environmental agreements. Finally, the importance of a scientifically rigorous approach to the identification of climate vulnerabilities and appropriate response measures is emphasized. The judgment of this evaluation is that the Armenia Forest Adaptation project is fully in line with and relevant to the GEF's requirements and guidelines under the SPA.

[21] Adapted from: http://unfccc.int/adaptation/cancun_adaptation_framework/items/5852.php, as accessed June 8, 2011.

[22] GEF. "Operational Guidelines for the Strategic Priority 'Piloting an Operational Approach to Adaptation' (SPA)," GEF/C.27/Inf.10, October 14, 2005.

[23] The full SPA portfolio consists of 26 projects – 17 full-size projects and nine MSPs, of which this project is one.

[24] GEF Evaluation Office. 2010. "Evaluation of the Strategic Priority for Adaptation (SPA): Full Evaluation Report," October 22, 2010.

46. In addition to conforming to the GEF's operational guidelines for the SPA, this project, as a GEF-funded initiative, is also expected to conform with general GEF policies and strategies, including the GEF Operational Principles (outlined in Annex 2), and focal area strategies. The evidence from this evaluation exercise indicates that the project is relevant to GEF policies, procedures, and strategies at all levels.

C. Project Implementation Approach

47. The project is executed under UNDP NEX arrangements, whereby the MoNP is the responsible government partner. The project team is housed in the CCU under the MoNP, the core project staff are contracted under UNDP Service Contract modality, and technical experts are contracted under UNDP Special Service Agreements (individual contracts). Figure 3 below (from the project document) shows the overall project execution arrangements, with the project represented as the bottom right box in the diagram; the other three boxes represent other projects executed under the CCU. The project office's location in the CCU is useful from at least two key points of view – first, the project team is able to easily communicate with and share resources with other key staff working on climate change issues in Armenia, and second the team has excellent access to other relevant staff in the MoNP. Stakeholders from both UNDP and the MoNP interviewed for this evaluation cited the strong communication and working relationship set-up through the implementation arrangements.

Box 1 Project Board Member Organizations

- First Deputy Minister, MoNP (Co-chair)
- Deputy Resident Representative, UNDP (Co-chair)
- Armenia National Statistical Service
- Local Self-administration Department, Ministry of Territorial Administration
- UNFCCC Focal Point, MoNP
- Armenian Rescue Service, Ministry of Emergency Services (MoES)
- Forestry Development Division, Ministry of Agriculture
- Agriculture and Environment Department, Syunik Marz
- International Organizations Department, Ministry of Foreign Affairs
- Agroecology Department, Armenian State Agrarian University

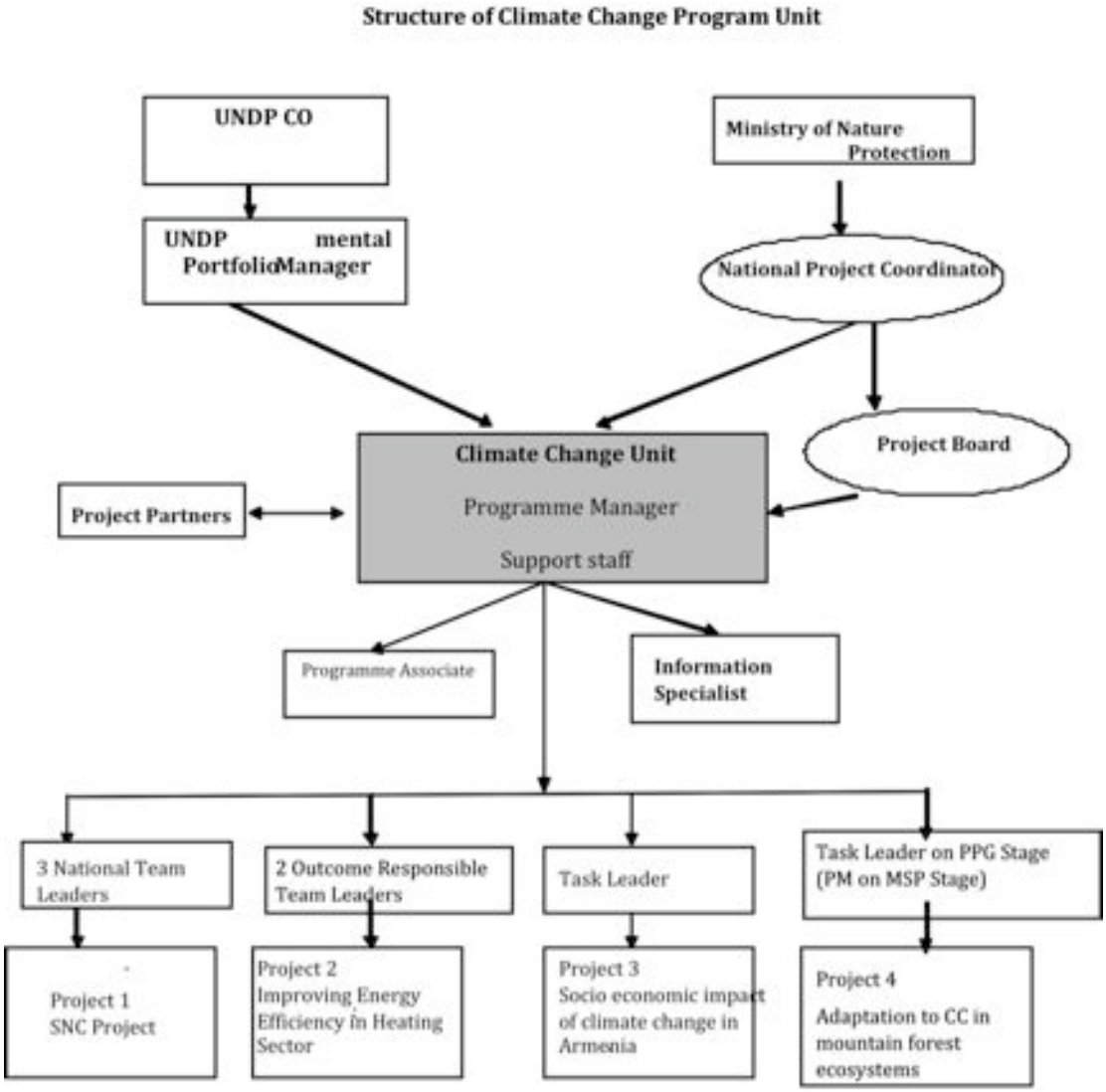
48. The project is supported, overseen, and guided by a Project Board, for which meetings are held annually. The organizations represented on the Project Board are highlighted in Box 1. Three meetings have been held to date: July 3, 2009 (in conjunction with the inception workshop); July 23, 2010; and April 30, 2011. The most recent meeting was held in Goris, in conjunction with a project field site visit for Project Board members. In case of instances where the project team requires input or approval from the Project Board at a time other than at the annual meeting, procedures are in place for decisions to be taken remotely by mail and email.

49. Within the project, there are multiple partnership agreements in place for project execution. For the reforestation activities, the project team has developed a Letter of Agreement between UNDP and Hayantar, the partner responsible for field activities in Goris and Kapan forest enterprise areas. Arevik National Park has status as an independent legal entity, so a separate Letter of Agreement was developed covering the activities to be

completed in the Meghri region. As the World Wildlife Fund (WWF) is a key stakeholder on environmental conservation, reforestation, and climate change issues in Armenia (discussed further in Section IV.E below on synergies), a Letter of Intent has been established between UNDP, the MoNP, and WWF to facilitate collaboration on areas of common interest.

50. As at the project oversight level, there are strong working relationships between all partners at the execution level. At the time the project concept was initiated and under development (starting in 2004), the project represented the first time an international donor organization had worked with Hayantar, the state non-commercial organization responsible for forestry in Armenia. Thus far the experience has been positive, and an effective approach has been developed. As one stakeholder noted, "Cooperation between a public entity and an international organization is normally like a meeting of two different types of elephants," but in the case of this project, the individuals involved have worked together for many years, and have established positive working relationships.

Figure 3 Project Implementation Structure Under the MoNP Climate Change Program Unit



D. Project Management and Cost Effectiveness (Efficiency)

51. Overall cost-effectiveness of the project is rated ***satisfactory***. As described above, the project is executed within the CCU of the MoNP. At the annual Project Board meeting, the project progress report is discussed, and the workplan for the forthcoming year is discussed and agreed upon. At the semi-annual and annual project outcome board meetings the budget implementation is discussed and agreed upon. The project budget is managed according to UNDP standards, using the ATLAS system. The project budget is monitored regularly during the year by the project staff, and the statement of expenditure is reported comprehensively annually in the Combined Delivery Report. An audit was contracted for the project implementation period from January 1, 2009 to December 31, 2010, which covered the expenditure of $394,477.46 of the project budget. The audit found that the project financial records "present fairly, in all material aspects" the denoted expenditure. The audit further verified the statement of assets and equipment, and the project's cash position. In addition to this verification during the audit process, this evaluation found that the project team is highly sensitive to cost-effectiveness, and project expenditures are fully in-line with norms and standards for international development projects.

52. The project financial management and execution approach is considered highly efficient, thanks to the project being executed through the MoNP's CCU. The CCU is executing multiple projects at the same time (including other GEF-funded initiatives such as Armenia's Second National UNFCCC communication), and has a long history of working with UNDP and other international donors. With this approach the Armenia Forest Adaptation project is able to cost-share with other projects on items such as office space, information technology support, financial management, transport, and other basic management costs.

53. The ATLAS system automatically accounts for exchange rate differences between USD and the local currency, Armenian drams. However, the ATLAS system does not employ exchange rate hedging, and thus all GEF projects, which are funded in USD, are subject to exchange rate risk once the project has received final approval. Fortunately this project has benefited from this exchange rate risk, at least during the first two years of project implementation. In January 2009, the first month after GEF and UNDP project approval, the official UN exchange rate for USD and Armenian drams stood at 307.5 drams to the dollar. Up to December 2010 the dram weakened against the dollar, and the exchange rate at this point was 362 drams to the dollar, equating to a 17.7% increase in local purchasing power.

54. The main challenge the project has faced with respect to financial management is due to the fact that the project has numerous procurement needs. Multiple aspects of the project strategy require acquiring specific equipment, particularly the fire-fighting equipment that is to be distributed to stakeholders at the demonstration sites in Syunik marz. The project is required to use UNDP procurement procedures, and there have been some bureaucratic delays in this process. The project team and UNDP have worked together to improve the situation, but the initial delays have resulted in the firefighting equipment being procured a few months later than initially planned; the equipment is being distributed in July 2011, a few weeks after the traditional start of the annual fire season. UNDP operational contracting procedures and requirements, which the project was obligated to follow, also presented challenges that reduced cost-effectiveness.

E. Financial Planning by Component, Co-financing, and Synergies

55. Table 4 below shows a breakdown of the planned project expenditure by outcome, and actual project expenditure to date, based on the overall planned budget of $0.9 million in GEF funding and the overall planned budget of $2.8 million. As can be seen in the table, component 1, focusing on the enabling environment, was budgeted for approximately a quarter of the GEF resources, and approximately 30% of overall resources. Outcome 2, relating to piloting adaptation measures, was budgeted for nearly half of the GEF resources, and just under half of overall resources. Outcome 3 focused on capacity development, monitoring and evaluation (M&E), learning, and replication, and had a planned budget of approximately 17% of GEF resources, and just over 15% of overall resources. The project did not have a specific M&E budget (see further discussion under Section VI.C.i on M&E), but resources to be used for planned M&E activities account for approximately 3.3% of GEF resources, and 1.1% of the overall budget. The project management budget was planned at approximately 10% of GEF resources, and 8.5% of the overall budget.

56. To date approximately 53% of the GEF resources for the project budget have been spent, which is approximately on track with the project having been implemented for half of its planned duration, considering that the project was originally planned for a four year implementation period. As noted in Table 2 previously, the project started six months later than originally expected, with the first disbursement in May 2009 instead of November 2008. The expected project completion date has not officially been extended as yet, and is still slated for November 2012. The current rate of budget expenditure would facilitate an additional two years of implementation, and this evaluation recommends that the Project Board and execution partners consider a 6-12 month no-cost extension for the project to allow at least the originally planned 48-month implementation period. As is foreseen in the project document, this remaining period would allow the consolidation of results and strengthening of sustainability.

57. Table 5 below provides a summary of project planned and actual co-financing to date. The original project budget foresaw co-financing of $1.9 million USD, coming fully from Hayantar. This figure was based on the government's three-year mid-term expenditure plan. Due to the international financial crisis, which has affected Armenia as well, it is currently projected that the full amount of originally planned co-financing will not be available through Hayantar. This risk was foreseen at the project inception workshop, with a mitigation strategy including continuous resource mobilization and partnership building efforts. Up to the mid-point of the project Hayantar has contributed approximately $0.54 million in co-financing, or around 28% of the original commitment of $1.9 million. Co-financing from national government sources has also been received in support of Arevik National Park.[25] Another contributor has been the Caucasus Nature Fund,[26] which has allocated 170,00 euros to Arevik National Park over three years beginning in 2010.

[25] The establishment of Arevik National Park and initial support activities were also funded from 2005 – 2009 by a grant from the Critical Ecosystem Partnership Fund, which is another channel for GEF resources. See information for "Assistance to establishment of new protected area Arevik in Southern Armenia," and www.cepf.net. The current project can be seen as building on these previous efforts.

[26] See http://www.caucasus-naturefund.org/.

58. Once under implementation the project has sought to exploit potential synergies and develop collaboration and partnerships that may not have been foreseen in the project document. For example, the project has developed a Letter of Interest outlining potential cooperation and collaboration with WWF Armenia, as previously highlighted. WWF Armenia is also supporting the development of Arevik National Park, one of the project's demonstration sites. From 2008 – 2011 WWF Armenia executed the project "Mitigating Impacts of Climate Change through Restoration of Forests," which has contributed approximately $1.3 million in project co-financing, channeled from other external donors including the Norwegian Government, the German Government, and WWF branches in Western Europe. This project is intended to reforest 630 hectares in the Lori region.[27] The project has further leveraged additional co-financing from the Government of Finland through the United Nations Volunteers program, for involvement of two UN volunteer experts for three and 21 months respectively, which contributed approximately $0.02 million in project co-financing as of June 2011.

59. As a result of this unplanned co-financing support, the Armenia Forest Adaptation project has already surpassed its originally foreseen co-financing goal – achieving 112.6% of expected co-financing. The project's planned co-financing ratio was 2.1 : 1; with the current status of co-financing contributions the project should be able to significantly increase these co-financing ratio by the end of the project.

60. Beyond just financial contributions, the project is developing operational and strategic synergies with multiple partners. One excellent example of synergies with WWF relates to the establishment of the partnership agreements between the project and Arevik National Park. Since the national park was only established in 2009, the park administration and management capacity is limited (although the national park was essentially created from the former Meghri forest enterprise). As the national park is a legal entity, the project sought to establish a direct partnership agreement to implement the planned project reforestation activities. However, the administrative and financial capacity of the Arevik National Park administration had to be verified before such an agreement could be put in place. To assist in this area, WWF provided training in financial management, and the necessary computer equipment and software.

61. The project has also collaborated with UNDP's project on strengthening national disaster risk reduction capacities in Armenia,[28] through supporting the development of an inter-ministerial national platform for coordination and disaster risk data sharing, which, according to project stakeholders, has contributed to a strengthened and improved national approach to inter-institutional collaboration. A UN Food and Agriculture Organization project on reforestation and afforestation implemented from 2009-2011 with a budget of around $430,000 is supporting Hayantar with the development of modern tree nurseries in Armenia, as well as support for policy strengthening and capacity development.[29] Another related initiative is the European Neighborhood and Partnership Instrument (ENPI) Forest Law Enforcement and Governance (FLEG) program "Improving Forest Law Enforcement and Governance in the European Neighborhood Policy East Countries and Russia," which has multiple activities in the

[27] See http://wwf.panda.org/who_we_are/wwf_offices/armenia/our_work/projects/climate_forests/.
[28] See http://www.undp.am/?page=Project&id=103.
[29] See http://coin.fao.org/cms/world/armenia/en/NewsAndEvents/AfforestationProj.html.

forestry sector in Armenia and is partnering with Hayantar on multiple activities.[30] The project is also coordinating with the German Development Corporation's Sustainable Management of Biodiversity Programme, a two phase effort extending to 2015 that includes a focus on sustainable forest management, with the following emphases: revision of forest policy and legislation to international standards; establishment of a remote sensing forest monitoring system; development of standards and guidelines for forest management planning and inventory; assessment of potential payments for ecosystem services of forests; and development of sustainable use of non-timber forest products.

62. One potential synergy that has not been fully exploited thus far is collaboration with the UNDP-GEF Small Grants Programme (SGP) in Armenia. The SGP in Armenia has for example supported implementation of the management plan for Khosrov Forest State Reserve. This evaluation recommends that the project explore opportunities for synergies with the SGP to support community-based adaptation initiatives in the Syunik region.

F. Flexibility and Adaptive Management

63. The project is being implemented in a flexible manner, with a strong focus on adaptive management and a results-based approach. This adaptive approach is facilitated by the good communication and cooperation between the project team and each of the project partners. Even though the Project Board only meets formally once per year, there are regular open channels of communication to address any issues that arise in the interim.

64. The project inception workshop was held in July 2009, and no significant changes to the project design were required at that time. The first year workplan was revised to take into consideration the timing of the start of the project, and project indicators were revised and further developed.

65. There are multiple specific examples of adaptive approaches applied during project implementation, particularly with technical aspects related to the demonstration site activities. During the initial round of reforestation oaks were planted in the Goris, Kapan and Meghri sites both by planting saplings as well as planting seeds. It was found that animals (a variety of rodents) raided many of the planted seeds, eating and destroying them; this was determined to be a problem throughout the Syunik region in the current year, not just at the project sites. Thus for the second round of planting only oak saplings were planted, which are less susceptible to animal damage.

G. UNDP Project Oversight

66. As the responsible GEF Agency, UNDP oversees project implementation, and carries out general project oversight. As discussed above, the project is executed under UNDP's financial management system and procedures. According to multiple project stakeholders, and as indicated by relevant documentation, UNDP has been a strong partner for the project, during both the development and execution phases. The project office is located only a short physical distance away from the UNDP office, which facilitates regular communication. Staff from the UNDP Country Office have also visited the field sites in Syunik regularly – on average every other month during the first year of implementation.

[30] See http://www.enpi-fleg.org/index.php?id=12.

67. One notable indicator of UNDP's engagement is the extensive support provided at the level of the UNDP Deputy Resident Representative (DRR), who sits on the Project Board, and provides direct feedback on detailed aspects of project execution. The DRR has visited the project field sites and is certain to do so again before the end of the project.

68. UNDP has also provided critical support to the project in initiating a request to the government to undertake legislation that would directly support the legal control of fires. There is currently an inadequate legal mandate for fire control, which means that authorities cannot regulate or sanction uncontrolled fires. UNDP sent a request to three government ministries requesting them to consider initiating legislation that would provide a legal mandate for fire control. According to the project team, an initial positive response has been received from the Ministry of Emergency Services (MoES). Approval of such legislation would be an important result to which the project could be considered a contributor.

Table 4 Project Planned and Actual Expenditure Through June 30, 2011 *(all amounts in millions USD)*

	GEF Amount Planned	% of GEF Amount Planned	Total Planned	% of Total Planned	GEF Amount Actual	Actual % of GEF Amount Planned
Outcome 1: The enabling environment for integrating climate change risks into forest sector management is in place	$0.22	24.3%	$0.83	29.8%	$0.11	50.0%
Outcome 2: Forest and protected area management in the Syunik region integrates pilot adaptation measures to enhance adaptive capacity of mountain forest ecosystems	$0.43	47.9%	$1.29	46.1%	$0.25	58.1%
Outcome 3: Capacities for adaptive management, monitoring and evaluation, learning, and replication of project lessons are developed	$0.16	17.2%	$0.44	15.7%	$0.06	37.5%
Monitoring & Evaluation	$0.03*	3.3%	$0.03	1.1%	*	*
Project Management	$0.10	10.6%	$0.24	8.5%	$0.06	60.0%
Total	$0.90**		$2.8		$0.48	53.3%

* At the time of project design there was not a requirement for a separate M&E budget line in the overall project budget. The amount indicated here has been estimated by the project team based on planned M&E activities for the project, but is drawn from multiple budget lines foreseen in the project document, and is accounted for under the project management budget line in ATLAS.

**Note: Does not include $50,000 project preparation amount, and $95,000 agency fee.

Source: "GEF Amount Planned": Prodoc Section III "Total Workplan and Budget"; "Total Planned": Prodoc Section 'MSP Proposal' Part I.4.k: Financing; "GEF Amount Actual": Project Combined Delivery Reports and data provided by the project team.

Table 5 Project Planned and Actual Co-financing Through June 30, 2011 *(all amounts in millions USD)*

Co-financing (Type/Source)	IA own Financing		Multi-lateral Agencies (Non-GEF)		Bi-lateral Donors		National Government*		Local Government		Private Sector		NGOs		Other Sources		Total Co-financing		Percent of Expected Co-financing
Planned/Actual	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A	Actual share of proposed
Grant							$1.90	$0.67					$0.00	$1.26	$0.00	$0.02	$1.90	$1.95	102.6%
Credits																			
Loans																			
Equity																			
In-kind																			
Non-grant Instruments																			
Other Types																			
TOTAL							$1.90	$0.67					$0.00	$1.26	$0.00	$0.02	$1.90	$1.95	102.6%

P=Planned; A=Actual

*Includes co-financing from: Planned co-financing from the national government was foreseen solely from Hayantar SNCO. Actual co-financing has included resources from Arevik National Park SNCO as well.

Source: Planned: Project document; Actual: Data provided by the project team.

V. Project Performance and Results (Effectiveness)

69. Keeping in mind that this is the mid-term evaluation and the project has at least two more years of implementation, considering the progress thus far toward the achievement of expected outcomes and toward the overall project objective, **effectiveness** is rated *satisfactory*. A summary of activities and results thus far under each of the project outcomes is summarized in the section below. Progress with respect to specific logframe indicators is outlined in Table 7 at the end of this section.

A. Progress Toward Achievement of Anticipated Outcomes

i. Outcome 1: The enabling environment for integrating climate change risks into forest sector management is in place

70. A key activity under this outcome is the integration of climate change adaptation-related measures in forest management plans. This will be among the most significant and lasting benefits of the project, once it is achieved. As previously discussed, following the development of the National Forest Code and National Forest Program in the 2004-2006 timeframe, Hayantar and FREC are developing management plans for each of the 19 regional forest enterprises in Armenia. The project is producing recommendations on forest management related taking climate change into account for integration with the forest management plans – the management plans currently include a section focusing on appropriate management interventions based on the climatic conditions of a particular region (e.g. which trees to plant, etc.), but the current approach does not consider management actions necessary in modified climatic conditions, such as planting species that will not be vulnerable to climate change, and adjusting harvesting patterns appropriately.

71. Unfortunately, the timing of the project is not in sync with this management plan process – ideally the project would have taken place at a time where it could have worked in conjunction with the forest management plan development process to integrate climate change adaptation measures. Currently government has already approved 10 of the 18 management plans, and four or five others have already been completed and are waiting approval; the plans are for a 10-year period. The project is still in the phase of developing the technical recommendations related to integrating climate change adaptation considerations in forest management, which will then be submitted to FREC.

72. The project team is taking a proactive approach to this issue, and FREC is among the key project partners; thus there is already good communication and sharing of information on this issue. The project manager is also working with relevant stakeholders to identify the necessary policy process to amend the previously approved forest management plans so that the recommendations related to managing forests to strengthen climate resilience can be incorporated in the management plans. This amendment process has been explored in partnership with WWF, which is also seeking to amend forest policies in support of a community-based forest management initiative. This issue is further highlighted in Table 8 below on key priorities for the remaining implementation period. To expand the level of information and awareness on this issue within the country, the Director of FREC, who is responsible for developing the management plans and who has provided technical inputs to the

project, has offered to conduct training sessions on managing forest for climate change adaptation, an offer this evaluation recommends be taken advantage of by the project.

73. Among the initial activities of the project, contracted national and international experts completed multiple technical and analytical supporting reports, including the public outreach and advocacy strategy; a desk study of the vulnerability, elasticity, and resilience capacity of forest ecosystems in Syunik marz; and initial recommendations on improvement of forest pest/disease control based on current best practices. A capacity gap assessment was also completed with respect to Armenia's forest fire management, pest control, and legal and institutional structures for forest management. Another key output was the mapping of Syunik forests considering climate change vulnerability, taking into account factors such as elevation, slope, fire and pest damage, natural regeneration processes, and species composition.

74. Another enabling environment initiative related to fire management, which will be an important result if successful, is the strengthening of national policies to provide a sound legal basis for fire control and enforcement. There is currently an inadequate legal basis to enforce the control of human caused fires. Putting measures in place should facilitate improved oversight and management of fires by establishing penalties for those that unlawfully start fires. However, one challenge is that fire control laws can be difficult to enforce, because it is rarely possible to verify the identity of the person who started the fire, unless they are caught in the act.[31] Thus establishing the necessary legal foundation should not be seen as a panacea.

75. In the project document, Output 1.2 under Outcome 1 is "An early warning and response system to climate change risks based on clearly defined institutional roles and responsibilities." The development of a comprehensive national early warning system would be beyond the scope and available resources of the project. The project is contributing to efforts in this regard through the strengthening of institutional coordination for climate sensitive forest management, and particularly through the support for research on insect pest biology (discussed further under Outcome 2 below). In addition, the team is working with Hayantar and the regional Forest Enterprises to collaborate with the national meteorological service, Hydromet, to develop demand-driven weather forecasts. As the project team faces some uncertainty in terms of what exactly is expected to be achieved by project end with respect to an "early warning and response system", this evaluation recommends that the project team present a proposal clarifying this activity to the project board for confirmation, to ensure that there are no unfulfilled expectations at the end of the project. The second indicator under Outcome 1 in the logframe also addresses this activity, and this evaluation provides recommended revisions in Table 7 at the end of this section.

[31] Similar challenges with fire control have been seen in other GEF projects. For example, in the Integrated Watershed and Coastal Area Management project (GEF ID 1254), government agencies in the island of Antigua have been trying to control the burning of fields of fever grass, which is an invasive species and regenerates and expands quickly when burned. Local community members burn the grass to create new forage for free ranging livestock.

ii. Outcome 2: Forest and protected area management in the Syunik region integrates pilot adaptation measures to enhance adaptive capacity of mountain forest ecosystems

76. As highlighted in Section IV.E above, Outcome 2 is allocated the largest share of project resources. There are multiple activities under this outcome, but a key focus is the on-the-ground reforestation in the three main demonstration sites, Kapan, Goris and Meghri (at Arevik National Park), which is being carried out over a total of 55 hectares. Table 6 below provides a brief summary of the reforestation activities at each site. Across the three sites, temporary employment was created for 103 local community members. GEF and UNDP support for these activities is considered critical by stakeholders – according to one source, only 16 hectares of trees were planted by the national government in the 1991 – 1998 period. In each site seedlings have been planted and are now being maintained. Photo 1 below shows a planted seedling at the Kapan site, and Photo 2 shows a portion of the Meghri site, where planting sites are visible as dirt patches on the hillside. Fences have been established around the planted areas to ensure that free ranging domestic livestock does not destroy the seedlings, which would be one of the key threats in the absence of the fencing. Two local experts contracted by the project conduct regular monitoring of the reforested areas to ensure the planned maintenance activities are carried out, and to assess survival rates of seedlings. The project team, with the assistance of UN Volunteer forestry specialists, is currently developing a more comprehensive and technically structured monitoring approach.

77. Notably the project is instituting an ecosystem-based approach to reforestation by planting a variety of species native to each site to generate a mixed-species forest that will be more resilient and more biodiversity friendly. This is in contrast to a monoculture approach typically found in commercial forest plantations. On a cost per hectare basis, reforestation could be considered expensive, but it must be considered a long-term investment, as noted by site-level stakeholders. A key individual from the Meghri site noted that reforestation was the single most effective approach for on-the-ground resiliency measures; when given the hypothetical, “to improve forest resiliency to climate change, how would you use the money provided by the project if given complete autonomy?”, “reforestation” was the answer.

Table 6 Demonstration Site Reforestation Activities

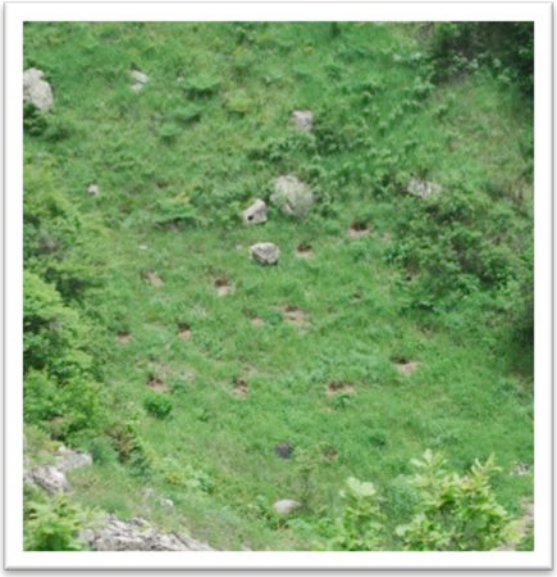
Project Site	Site Activities Summary
Kapan	According to project stakeholders, Armenia has more than 50 years of experience with oak and conifer reforestation, but prior to this project there was no experience with juniper reforestation. Junipers tend to grow on degraded land, and although they have no significant commercial value, they are critical in arresting erosion and regulating water flow. Junipers are also particularly challenging to regenerate. It has been noted that the planted areas will need maintenance for approximately five years before the trees will be able to sustain themselves, but it was noted that because of the slow rate at which junipers grow, the Kapan site may need maintenance for up to eight years. In May 2010 7,000 two- and three- year juniper seedlings were planted over 10 hectares, and 2,000 meters of fencing was completed. In Fall 2010 8,200 juniper seeds and 4,200 oak seeds were planted in the remaining 10 hectares. Maintenance activities include mowing and watering. The demonstration site is challenging because of the slope and

	the rocky terrain, and thus a survival rate of 29% - 37% is considered successful. Watering the site has been particularly challenging, but was critical during the 2010 drought in July through September. Senior level officials of the Kapan Forest Enterprise noted that the activities had been successful thus far because of the dedication of the staff, as well as the involvement of the community members – overall an indication of positive stakeholder ownership of the process. The reforestation activities have provided part-time employment to approximately 42 community members in the Kapan area, of which three were women. As the Kapan site represents the piloting of juniper reforestation in the country, ultimately, regardless of the percentage of seedlings that survive, the experience will be valuable, and the project team should ensure that the lessons and experience are shared at least at the national level. The site selected burned in 2006, with a total burned area of 90 hectares. Thus the pilot reforestation area of 20 hectares covers a little more than 20% of the burned site.
Goris	In the Fall of 2009 Goris Forest Enterprise prepared 10 hectares for reforestation; in the spring of 2010 an additional 5 hectares were prepared, and all of the hectares were planted, using both trench and hole techniques. A total of 70,000 two-year seedlings of diverse native species were planted, including oak, ash, elm, maple, and wild apple. Fencing of 2,700 running meters was also completed. Follow up maintenance included keeping surrounding vegetation cleared from the seedlings, tillage, and watering. Maintaining the surrounding fencing is also a critical activity. The reforestation activities provided temporary employment for 26 community members, of which 12 were women. Due to the severe drought in the summer of 2010 there was a 56% survival rate, and oaks were particularly hard hit. In the spring of 2011 the Forest Enterprise decided to replant oaks in some of the areas with low survival rates. Of the 16,300 hectares under management by the Goris Forest Enterprise, approximately 150-200 hectares require reforestation – thus the project is supporting approximately 10% of the needed investment.
Meghri (Arevik National Park)	The Meghri site was selected because natural regeneration was limited in the burned areas; selection was done through a comprehensive multi-stakeholder process involving approximately six to seven visits by experts to the Meghri region before selection of the final site. The Meghri region is expected to be among the most affected by climate change, as it is the most arid of the three demonstration sites, and thus is also susceptible to insect infestations. Preparation of 15.7 hectares was carried out in Fall 2010, and 5,300 seedlings were planted using both trench and hole techniques, including ash, hornbeam, maple, wild apple and wild pear. Another 4,300 oak seeds were planted in holes, and 107 kilograms planted in trenches. Fencing was constructed along 320 meters between the pilot site and bordering community lands, to restrict access of free-ranging livestock. Maintenance activities include watering, weeding, and tilling. The reforestation activities in Meghri provided part-time employment for 35 local communities members in 2010 and 2011 so far. Final planting will be conducted over approximately 350 square meters in the Fall of 2011, and some replanting of oak seedlings will be carried out where rodents ate the seeds planted in the Fall of 2010. In the Meghri site, as in the others, the ongoing maintenance of the reforested areas for at least a few years after the close of the project will be critical to ensure the sustainability of the reforestation results.

78. One positive experience from the Meghri site for possible replication in the other project sites was the involvement of school children in planting and care of the site. The Arevik National Park staff met with teaches from two secondary schools, and planned a day-long event where the school children visited the site and helped with watering, while the national park provided a picnic lunch. According to the Arevik National Park staff the event was quite successful, and the children are looking forward to repeating the event in the future. This type of activity is an excellent way to build awareness and understanding of the issues related to climate change and forest ecosystems, and could be replicated in the other project demonstration sites.

Photo 1 Planted Seedling (Kapan)

Photo 2 Planted Hillside (Meghri)



79. Also among the activities foreseen in the project document under Outcome 2 was the introduction of 'scenario planning' "as part of routine forest and protected area management planning" (although the "scenario planning" logframe indicator is included under Outcome 1). The project document does not clarify exactly what is envisioned with respect to 'scenario planning' beyond the incorporation in forest management plans of planning for climate change adaptation focused responses. This relates to Output 2.1 on "A comprehensive system for data collection and interpretation to feed into scenario development." According to the project team, this output is behind schedule, partly due to the lack of clarity on the issue. This evaluation recommends that as an input to the revision and development of forest management plans, the project team should investigate and discuss the tool of "scenario planning" for climate change in forest management (potentially with the input of international expertise), and share information about this tool with FREC for inclusion, as appropriate, in Forest Enterprise management plans. It is also appropriate for the project to focus on assisting data users in developing need-based data requests to be addressed at the national level by state environmental and meteorological monitoring agencies.

80. Another set of activities under Outcome 2 relates to pest control research and piloting of environmentally friendly biological control measures (e.g. pheromone glue compounds).

Project literature states that 20,000 hectares of forest area in Syunik is affected by pest infestations. The goal is to pilot biological pest control measures before the end of the project, but as of the midpoint of the project a number of steps remain in this process. The project team is in the process of identifying adequate facilities for large-scale production of the biological control agents, with the objective of carrying out an initial text in the spring of 2012. One stakeholder expressed that the successful piloting of this approach would be valuable for demonstrating the viability of pest control measures that may require larger up-front investment, but have a longer-term return on the actual control of pests, as well as reducing the negative environmental impact from the use of aerially applied chemical pesticides. If successful, the demonstration of this technology will be one of the key lessons at the end of the project. The potential to use more environmentally friendly biological controls is particularly important in the Meghri site within Arevik National Park – now that it has status as a national protected area the aerial application of chemical pesticides may not be allowed.

81. As a first step in developing the biological control techniques, the project contracted the partner organization Acopian Center for the Environment of the American University of Armenia to conduct research on climate change and pest outbreaks in Syunik marz, the results of which are described in the project output technical paper "Analysis of forest pests and pestholes exacerbated by climate change and climate variability in Syunik Marz of Armenia and to identification of the most applicable prevention measures." The Acopian Center has piloted an approach for pest monitoring, through counting of larvae at 27 sites over a 110 hectare pilot area. Developing an approach to pest monitoring would facilitate an "early warning" 9-10 months before an actual pest outbreak. Based on this research the Acopian Center in partnership with the project has produced an instructional text (still to be published) on the main forest insects and other pests, targeted for both practitioners and students. Among the project indicator targets is the training of 16 Forest Enterprise staff members in larvae monitoring techniques to support implementation of a pest early warning monitoring system. To support wider dissemination of this information, this evaluation recommends the training be conducted using a "train the trainer" approach, or that the training be open to all interested forestry sector professionals, depending on the available resources.

Photo 3 Testing of Procured Fire Fighting Equipment

82. One of the major specific threats to forests in the region is forest fire, as highlighted in Section III.B.ii. According to project documentation, 72.1% of forest area destroyed by fire in Armenia from 2001 – 2006 was in Syunik marz (with 289.3 hectares burned in 2006 alone or 63.8% of the total forest lands burned in Armenia in this period), and 2010 was a particularly bad year, with the second most total area burned in Syunik in the past

decade (after only 2006). A key activity under Outcome 2 is the piloting of rapid response teams to combat forest fires. In the remote areas of Armenia there are no specific standing forest fire fighting units – when a fire breaks out, it is the responsibility of multiple stakeholder groups to respond, including the employees of the respective regional forest enterprises. Local community members also contribute, and the military may be involved. At the national level, the MoES is responsible for providing support, but their capacity is limited in such a way that it can take a long time to reach the area where a fire may be. According to the MoES, the standard minimum response time should be <20 minutes, but it currently takes MoES >1 hour on average to reach any particular location.

Photo 5 Procured Tank and Pump Slip-on Unit

83. As mentioned in Section IV.D above, the project is providing a range of firefighting equipment for the three forest enterprises where the pilot sites are located. The equipment includes water storage and pumping engines to be placed on pickup trucks, backpack pumps, collapsible pillow storage tanks, hand tools such as fire swatters, and safety equipment. Although there were some delays in procuring the equipment, it was formally transferred to the forest enterprise staff in July 2011 (see Photos 3 and 4). The project partners should begin budgeting now for depreciation of the fire fighting equipment, each component of which has an expected useful life. If there is no financial mechanism to replace the equipment at the end of its useful life this aspect of the project will have low sustainability, as once the equipment is fully depreciated (some of the equipment has an expected five year life) the benefits gained through its procurement (in the form of fire suppression) will also be lost.

Photo 4 Forest Fire Public Awareness Sign

84. To help reduce the number of human caused fires in the region (indications are that humans are responsible for up to 99% of fires in the region) the project also supported education and awareness activities, such as posting of 35 signboards near forest areas (see Photo 4), producing a documentary that was shown on local television, and producing public service announcements on the radio in the Syunik region. The increasing awareness about

the damage from fire is considered one of the key results in the Kapan demonstration site. Ultimately the forest authorities in Syunik marz need to develop within the local communities a level of communication and understanding with respect to fire management, as well as a set of practical guidelines and standards for how and when farmers can burn stubble fields if they so desire. As the project manager has rightly pointed out, burning of fields in their own right is not the problem for the forests – the problem arises when these fires are left uncontrolled and extend into forest areas. Reducing the "supply" side of the fire threat will, in the long-term, be more effective than trying to respond to fires that are already out of control.

iii. Outcome 3: Capacities for adaptive management, monitoring and evaluation, learning, and replication of project lessons are developed

85. A number of activities under this outcome are expected in the second half of the project implementation period.

86. To kick-of the project in the Syunik region, two round-table discussions were held with local stakeholders in November 2009, in Kapan and Goris. The meetings were conducted to share information about the objectives of the project, including the reforestation activities to be carried out at the local sites. Involved local stakeholders included local NGOs, tourism businesses and forest management authorities. Participants highlighted the importance of collaboration with NGOs and the private sector, and contributed multiple suggestions for future community engagement. The results of the meeting contributed to the development of the project's Public Outreach and Advocacy Strategy.

87. On May 7th, 2010, a workshop was held on the integration of climate change risks into the management of forest ecosystems in Syunik region. Experts working with the project presented and discussed ongoing efforts in assessing forest vulnerability, the study of pest infestations focusing on climate change, and forest fire management challenges in the region.

88. From May 13th to 15th 2010, seminars on forest biodiversity and climate change were organized for secondary school teachers and students in Kapan and Goris: 41 teachers from 26 secondary schools in the region participated, and 57 students participated through activities such an essay contest on climate change related issues. A similar event from April 6th – 9th, 2011 involved 90 teachers and 153 students from all three districts. A seminar on sustainable forest management and forest impacts of climate change was also organized on April 20th, 2011 for 60 students of the Faculty of Biology, Chemistry and Geography at the Armenian State Pedagogical University.

89. A seminar on "Vulnerability of Mountain Forest Ecosystems and Enhancement of Adaptation to Climate Change Impacts" was held September 17th – 18th 2010 in Goris. The seminar was targeted at raising awareness of local media representatives, and participants included 17 reporters from nine national and six regional media outlets.

90. A survey on local communities' dependence on forest resources was conducted in the Fall of 2010, covering 137 households. According to project document, the survey findings will contribute to planning for future actions and implementation of targeted community-based initiatives.

91. The project contributed to national environmental awareness campaigns, such as Earth Day 2010. The project does not have its own stand-alone website, but has a dedicated webpage within the website of the Armenian Climate Change Information Center (http://www.nature-ic.am) in the interest of cost-effectiveness and synergy; this website is managed by the CCU.

92. The results and data from the project activities and supported studies have been shared through multiple national seminars and workshops, including a workshop on "Forest Fire Risks in Armenia Due to Climate Change and Relevant Mitigation Measures" (November 15, 2010) and "Forest Pest Control and Forest Monitoring" (November 18, 2010, organized by the Acopian Center).

93. The project team should seek ways to share lessons and experiences beyond the national context. Other countries in the Caucuses region with similar ecosystems would likely benefit from learning about the experiences of the project, but the experience will also be valuable at the global level, as there remains limited knowledge on actual implementation and results of climate change adaptation initiatives.

iv. Remaining Key Capacity Development Needs for Adaptation

94. As discussed at multiple points above, the Armenia Forest Adaptation project is contributing to capacity development on many fronts – at the individual, institutional and systemic levels, as well as at the regional and national level. There are two key capacity development needs that should be highlighted for future consideration. These likely cannot be addressed under this project, but could be supported under future related initiatives. The first key need is the development of a structured program for ongoing individual capacity development within key government institutions addressing the management of natural resources and environmental conservation. According to stakeholders interviewed for this evaluation, technical training and development is currently only available through ad-hoc opportunities supported through external efforts, such as the Armenia Forest Adaptation project. For Armenia to develop its environmental management capacity in the long-term, there needs to be an organized approach to capacity development, facilitating the training and advancement of staff members on key issues, such as climate change adaptation. The second key issue is the need to incorporate climate change adaptation issues more fully in higher-level education curricula. The current project is providing some inputs to the forestry program at the Agrarian University of Armenia, but a more comprehensive approach will be critical for the long-term development of qualified personnel in the environmental management field.

Table 7 Armenia Forests Adaptation Project Logframe: Progress toward outcomes and suggested revisions

Project Component	Indicator	Baseline	Target	Self-reported Status as of June 30, 2010 (2010 PIR)	Mid-term Evaluation Assessment	Suggested Revisions and Clarifications
Objective: To enhance adaptive capacities of the vulnerable mountain forest ecosystems to climate change in the Syunik region.	Enhanced resilience of mountain forest ecosystems in the Syunik region due to adaptation measures (such as better management of forest fires, pest holes)	There are no efforts currently underway to address climate change impacts on mountain forest ecosystem degradation in the Syunik region.	At least two types of resilience-enhancing measures employed by the project upon its completion, covering approximately 87% of forest covered area in Syunik (65,000 ha under the forest enterprises and 10,000 ha under SPANs)	Two forest rehabilitation pilot projects to (i) reduce forest fragmentation and (ii) restore burnt juniper forest are underway and have been implemented on 35 ha so far by local forest management authorities in Syunik region (Syunik and Kapan Forest Enterprises) with direct involvement of local community members. The Government established "Arevik" National Park in Syunik region with total area of 34,400 ha that includes the area of former Meghri Forest Enterprise too. The approaches for planned third pilot project in the area of the national park aimed at rehabilitation of oak forest area affected by pest outbreaks and forest fire are adjusted considering the existing legal requirements to management of protected areas. The development of the pilot project design in "Arevik" National Park is initiated.	There are multiple types of resilience enhancing measures that the project is emphasizing, with the two main practical measures being reforestation of selected vulnerable pilot areas to enhance long-term resilience (covering 55 hectares), and enhanced fire response capacity for the three pilot area forest enterprises (which cover a total of 75,000 hectares[32]). Biological pest-control activities will also be tested in a limited area. While the indicator is lacking specificity and clear definitions, as currently structured, no challenges are foreseen in meeting the target by the end of the project. See suggested indicator revisions at right.	The indicator and target would benefit from improved specificity, definition, and results-focus. For example, should raising awareness of local community members about the hazards of forest fires be considered a resilience enhancing measure? On the whole, the project is focusing on many more than two resilience enhancing measures. The project is addressing three Forest Enterprises, which cover the specified number of hectares. Further definition of "employed" is required – should this mean that forest managers and community members are fully capacitated and prepared to address climate change impacts? Or just that there has been some level of improvement? The current target makes the logical leap that the execution of project activities equals increased resilience. This may be justified, but a more results-based target could be broken down and further specified, for example, as "Across 75,000 hectares of Syunik forests, A. Increased health of forests due to decreased forest fragmentation and significant pest infestations; B. Decreased risk of catastrophic fire outbreaks; C. Increased capacity of forest managers and stakeholders to manage and respond to climate-related impacts"

[32] The figure for the total number of hectares addressed varies depending on the source. The figure of 75,000 is the figure given in the project document, based on primary sources. Some other documents give a figure of 72,000 hectares.

Project Component	Indicator	Baseline	Target	Self-reported Status as of June 30, 2010 (2010 PIR)	Mid-term Evaluation Assessment	Suggested Revisions and Clarifications
Outcome 1: The enabling environment for integrating climate change risks into forest sector management is in place.	Forest sector management planning documents for Syunik region include adaptation measures tested through the project and provide for resources to undertake these measures so as to enhance the resilience of biodiversity to CC related risks.	Planning documents for Syunik are in the process of being developed and do not include CC adaptation measures.	By project end, at least two management plans include adaptation measures recommended and tested by the project (focusing on fire management and pest control)	Ten year forest management planning documents of Syunik and Kapan Forest Enterprises in Syunik region were analysed to identify recommendations on inclusion of adaptation measures. The recommendations entail change of tree species composition planned for planting on forest lands, development of comprehensive programmes for forest fire monitoring, prevention and risk reduction, as well as improved pest monitoring and control, including shift to environmentally sound measures.	Progress to date is on track for development of recommendations for climate change adaptation management. The project must focus on this issue to ensure that the recommendations are formally incorporated in the forest enterprise management plans by the end of the project. It would be preferable for the recommendations to be included beyond the management plans for the Syunik (Goris) and Kapan Forest Enterprises, as well as for Arevik National Park. There are 19 forest enterprises in Armenia, and it would be ideal if the project recommendations were eventually included in all of them.	The indicator could benefit from an improved results focus, which would be that not only do the management plans incorporate the recommendations, but that the management plans and associated climate adaptation measures are actually implemented in the respective forest enterprises.
	Institutions that need to be involved in early warning and response to CC related impacts on forests (such as the local forestry, emergency management agency, fire department) have clarity on their mandate and role in responding to CC risks	There is no clarity on roles and responsibilities. There is no practice of scenario planning that systematically takes into account climate risks as part of wildfire management and pest control	By project end, roles and responsibilities are developed and approved on the basis of the comparative advantage of each agency. By project end scenario planning exercise becomes part of the forest management decision and routine.	Assessment of Armenia's forest fire management and pest control legal and institutional structure, functions as well as current practices was conducted; critical gaps such as weak capacities of forest management authorities for monitoring and early response, improper coordination of activities between different agencies involved, shortcomings in related regulations identified in relation to climate risk management of the forests as well as low public awareness.	Information on the distribution of roles and responsibilities has been developed and shared with relevant organizations, but a fully developed fire response plan is to be completed and agreed by relevant organizations. The scenario planning target is unclear in terms of what exactly is envisioned, as various aspects of the project's efforts on strengthening climate resilience forest management could be	The indicator could be refined to express how having "clarity on their mandate and role" would be defined, and the target should specify who would approve what kind of output that "develops roles and responsibilities." This evaluation recommends the scenario planning target be dropped unless the scope of "scenario planning" can be clearly defined. The project team should investigate and explore the potential use of scenario planning (whatever this implies) as a tool in the context of forest management, but it may not be appropriate to have this as a formal

Project Component	Indicator	Baseline	Target	Self-reported Status as of June 30, 2010 (2010 PIR)	Mid-term Evaluation Assessment	Suggested Revisions and Clarifications
					considered as "scenario planning." See additional discussion under Outcome 2 in this evaluation report.	target in the logframe.
Outcome 2: Forest and protected area management in the Syunik region integrates pilot adaptation measures to enhance adaptive capacity of mountain forest ecosystems.	Ability of forest areas under the jurisdiction of the Syunik (Goris), Kapan and Meghri forest enterprises to provide effective protection to the region's globally significant biodiversity against CC related risks is increased. Indicators for monitoring this are based on the GEF's METT approach of using proxy indicators, as follows:					
	1) Landscape coverage	Forest enterprises do not take into account climate risks to biodiversity harbored in forest areas	75,000 ha of forest covered lands (65,000 ha under the forest enterprises and 10,000 ha under SPANs) will benefit from restoration measures designed specifically to address degradation pressures induced by climate change; the project will also indirectly influence 20,000 ha of non-forest covered lands under the forest enterprises	35 ha forest land was reforested by local forest enterprises with participation of local community members under the planned pilot projects to reduce forest fragmentation and overcome forest fire consequences. Reforestation was done in compliance with pilot project designs developed by "Hayantar"(ArmForest) SNCO in advance. Restoration of forest ecosystem integrity in the area will create better conditions for forest biodiversity leading to enhancement of forest resilience and restoration of ecological balance. The larger effect of applied measures will be monitored an assessed on later stages of the project implementation.	The target should be achieved through the various climate change management improvement measures addressed by the project for the three Forest Enterprises targeted. To gain further insight on this, the project could include the METT for Arevik National Park as a results monitoring tool (as it is expected that Arevik National Park will be completing the METT as part of associated activities.	Restoration measures are only taking place in a total of 55 hectares. Thus the target language should be revised from "will benefit from restoration measures" to "will benefit from improved forest management measures." Regarding the 20,000 of non-forest covered lands, it should also be clarified exactly how these lands will benefit – for example, through reduction of fire risk as well, or improved adjacent forest ecosystem services, etc.
	2) Management practices applied 2a) Improved management of pest holes that are being exacerbated by climate change and variability, measured by the following indicators				This section is broken into three subsections (2a, 2b, 2c) in line with addressing the three threats of pests, fire, and fragmentation.	
	Increase in area covered by an improved monitoring system for pest invasions	0 hectares	4,000 ha (2,000 ha will directly be brought under improved management; an additional surrounding area of	Piloting a new approach for pest monitoring such as counting of larva and imago has been conducted under the project by experts of American University of Armenia on 27 sites and covered area of 110	Implementation of a comprehensive monitoring system would be beyond the scope of the project and would require ongoing resources. The Acopian Center has conducted	The current indicator of 4,000 hectares under improved pest monitoring is not likely to be achieved. A revised indicator could include a focus on establishing a knowledge base on pest monitoring to enable improved management

Project Component	Indicator	Baseline	Target	Self-reported Status as of June 30, 2010 (2010 PIR)	Mid-term Evaluation Assessment	Suggested Revisions and Clarifications
			2,000 ha will also benefit)	ha in Syunik region. This is a combination of international and local practices and allows obtaining data in perspective at about 9-10 months ahead of the potential pest outbreak. The study results will serve as a basis for future recommendations to improve the monitoring system for pest invasions.	testing of the pest early monitoring system, with positive initial results. The long-term goal would be to train the forest enterprise staff to conduct the early warning monitoring as part of their regular work program, but this would require negotiation and discussion with Hayantar, and is not likely to be achieved during the course of the project. There has not been systematic pest monitoring in Armenia in recent decades due to resource limitations. The project aims to develop a pest monitoring plan that could be implemented when resources are available.	when resources are available.
	Increase in use of environmentally sound aerial pest control using biological treatment	0 hectares are subject to biological pest control	4,000 ha (2,000 ha will directly be brought under improved management; an additional surrounding area of 2,000 ha will also benefit)	Testing of biological pest control measures such as use of pheromone-glue compounds is done for selected pests affecting forests under a state budget programme (parallel project funding component). Based on the results of the research this methodology is recommended as an effective tool for forest pest monitoring. The recommendations will be considered on the stage of the comprehensive recommendation package preparation under the project.	The project is in the process of identifying companies with the capacity to synthesize large quantities of the biological pesticide and undertake the necessary application procedures. Pest infestations normally occur in the spring, and thus the objective is to be prepared for testing by May 2012. It is not guaranteed that Hayantar will incorporate the biological pest control technology into the regular forest management program.	To ensure cost-effectiveness the testing of the biological pest controls will be done by tractor rather than aerially. Therefore the indicator could be revised to take out the word "aerial". The target of 4,000 hectares was apparently based on the expected coverage to be achieved through aerial application of the biological pest control agent. This may need to be clarified in light of the expectation that application will not be carried out aerially. The indicator could be further revised to clarify that the biological pest controls will be piloted over this area only, not that it will be consistently used in management indefinitely.

Project Component	Indicator	Baseline	Target	Self-reported Status as of June 30, 2010 (2010 PIR)	Mid-term Evaluation Assessment	Suggested Revisions and Clarifications
	Increase in capacity of forest enterprises and SPAN staff to monitor and respond to pests	Currently no staff are trained in improved monitoring and application of biological control techniques	16 staff from SPANs and forest enterprises are trained	N/A, planned for 2010-2011	It is anticipated that this target will be achieved.	The target of 16 persons was based on the assumption of four persons from each of the three participating Forest Enterprises (Goris, Kapan, Meghri) plus two persons each from the neighboring Sisian and Vayots Dzor Forest Enterprises. Training this minimum number of individuals is intended to ensure that the information is retained and applied within the forest enterprises.
	2b) Improved management of forest fires that are being exacerbated by climate change and variability, measured by the following indicators:	0 hectares	75,000 ha (65,000 ha of forest covered lands under the forest enterprises and 10,000 ha under SPANs)			The 75,000 hectare target is based on the total forest lands area under management by the three participating Forest Enterprises.
	Reduction in activities that tend to lead to forest fires (agricultural waste burning and open fires in forest recreational areas in the dry season)'	Agricultural waste burning is reported approximately 55 times a year Open fires in recreational areas during dry season are reported approximately 70 times a year	Reduction in these activities by 50% by project end	N/A	The only mechanisms the project has to achieve this are through awareness raising, and the potential longer-term development of legal measures supporting enforcement.	This is not a results-based indicator as the number of fire incidences is not specifically the problem; the lack of control of fires is the main issue. The indicator could be tied to the level of community awareness on fire control and management, but there was no baseline survey conducted at the beginning of the project. A revised results-based indicator could also focus on the total area burned, but would have to be clearly linked to the influence of project activities, and take into consideration annual climate variations (for example 2010 was a very dry year and had a increased total area of forest burned).

Project Component	Indicator	Baseline	Target	Self-reported Status as of June 30, 2010 (2010 PIR)	Mid-term Evaluation Assessment	Suggested Revisions and Clarifications
	Increase in awareness of local communities, NGOs, tourist organizations of the importance of fire prevention leading to behavioural change	No such awareness efforts have been undertaken. Preventive measures haven't been practiced by identified stakeholders	By project end, targeted training workshops are held and tailored material is distributed to all identified partner groups	Target groups have been identified, data base created and outreach strategy developed. Six public awareness raising events were organized for local stakeholders, including NGOs, tourist organisation and educational institutions. The "Earth Day 2010 Armenia" campaign organized jointly with partner organizations. As a result, local community members (98 persons including 57 youth) and partner organizations at national and local level have better knowledge on CC risks with respect to forest ecosystems. Local forest authorities (Syunik and Kapan Forest Enterprise, "Arevik" National Park) have better understanding of adaptation needs of forest ecosystems. A booklet on the project was published and distributed among stakeholders, local community members, NGOs, tourist organisation and educational institutions along with earlier published brochure on "Syunik Forest Biodiversity and Global Climate Change". Development and installation of signboards for promotion of fire-prevention attitude and actions in the forest recreational areas of Syunik region has been initiated.	All indications are that the stated activities have been carried out as indicated.	This indicator and target needs significant revision. It should be possible to develop a quantitative approach, as long as the overall ideal objective is clarified – for example, whether 100% coverage in the region is required. Then, a feasible target for the project based on available resources could be specified. One focus could be on the schools in the region – students from the two secondary schools in the Meghri region have already been involved in the reforestation activities. Teachers from surrounding schools have also been involved, and have now requested that awareness activities be held in their schools. According to available documentation, in 2009 the below were the number of schools and students in the respective districts: Goris: 31 schools with 5,739 students Kapan: 44 schools with 5,941 students Meghri: 11 schools with 1,627 students

Project Component	Indicator	Baseline	Target	Self-reported Status as of June 30, 2010 (2010 PIR)	Mid-term Evaluation Assessment	Suggested Revisions and Clarifications
	Increase capacity of staff to implement an early warning and response system	0 staff trained	24 people trained covering foresters from forest enterprises, republican, regional and local administrations, emergency and fire departments, protected area management units and community representatives	N/A, planned for 2010-2012	This activity remains to be completed. One training is planned. The training will focus on fire early response, but will also include information on early warning monitoring. It is anticipated that the training will include stakeholders from each of the specified groups to at least a minimal degree.	The target rationale was for training of eight individuals from each district: three to five community leaders (who are responsible for fire response in their communities) and three to five individuals from the community fire brigade. The indicator and target are acceptable, although they are supply driven based on the available project resources. It would be helpful to articulate what the ideal target would be to have a sense of the extent to which the project is meeting the need and contributing to relevant progress in the region.
	2c) Reduction in forest fragmentation to enhance ecosystem resilience to climate change and variability, including: - reforested area - recovered (rejoined) area	0 hectares	15 ha (will directly be brought under improved management and will be rejoined to forested tracts)		Assuming sustainability of the reforested pilot sites, as articulated this target will be achieved.	This indicator could be significantly clarified by distinguishing between "reforested" and "rejoined" areas, as in both the Goris and Meghri sites the reforested area will also be "rejoined" with surrounding forested areas. The target of 15 hectares was specified based on the expected reforestation area of the Goris site, but this is a supply driven indicator that does not provide insight on the degree to which the project is actually addressing the problem of fragmentation. In the Goris Forest Enterprise there are approximately 150 – 200 hectares of fragmented forest area – thus the project is addressing about 10% of the need (if the objective were to recover all fragmented areas). The indicator target could be revised to break out the amount of area being reforested and the area being rejoined as a percentage of the total need in the three Forest Enterprises.

Project Component	Indicator	Baseline	Target	Self-reported Status as of June 30, 2010 (2010 PIR)	Mid-term Evaluation Assessment	Suggested Revisions and Clarifications
						Given that an indicator is proposed that specifically relates to the Goris pilot site, useful results-based indicators could also be developed that facilitate the documentation of positive results at the Kapan and Meghri sites as well. For clarity it would also be helpful if the indicator revision eliminated the phrase "under improved management" in the target, as reforesting an area is not necessarily bringing that area under improved management, but simply recovering forest in that area.
Outcome 3: Capacities for adaptive management, monitoring and evaluation, learning, and replication of project lessons are developed.	Number of forest enterprises outside the Syunik region that have initiated the process of integrating adaptation to CC in their forest management plans	Zero	6 forest enterprises	N/A, planned for 2011-2012	A training is planned which will involve individuals from two Forest Enterprises each from three other marzes with significant forest area. This will be a three to four day training also involving individuals from the Syunik region who will share their knowledge and experience from the project activities.	The target rationale is that there are essentially three other marzes with significant forested area. Further analysis is required to assess what percentage of Armenia's forests would be addressed if forest enterprises from these three additional marzes incorporated climate change adaptation aspects in their forest management plans. Basic data available on the Hayantar website indicates that the three marzes other than Syunik with the largest forest area are Lori, Tavush, and Kotayk. These three marzes have 74.2% of Armenia's total forest area, so if forest enterprises in these three additional marzes included adaptation approaches in their management, most of Armenia's forests would be covered. However, these three marzes have 11 forest enterprises, so a training that included only six non-Syunik forest enterprises would not fully cover these three marzes.

Project Component	Indicator	Baseline	Target	Self-reported Status as of June 30, 2010 (2010 PIR)	Mid-term Evaluation Assessment	Suggested Revisions and Clarifications
						The indicator would be significantly improved by clarifying the definition and level of achievement in terms of other Forest Enterprises having "initiated the process of integrating adaptation to climate change in their forest management plans." The forest management plans are being developed by FREC, and the individuals involved from FREC have also been involved in the project, so it is envisioned that they would be able to integrate adaptation aspects. This indicator appears to b related specifically to Output 3.1 under Outcome 3, while two additional outputs are planned in the project document. It is not clear why an indicator only for Output 3.1 has been specified. It is not necessary for the logframe to including indicators corresponding to every project output, but the logframe should include the indicators necessary to document and verify the diverse project results, which will also guide the project team in ensuring a results-based approach to project implementation

B. Priorities and Risks for the Remainder of Implementation

95. Table 8 below summarizes, in the view of this evaluation, the important priorities and risk factors for the remaining project implementation period.

Table 8 Key Priorities and Risks for the Remaining Implementation Period

Priority / Risk Factor	Issue Summary	Priority Actions / Risk Mitigation
Priority: Ensuring sustainability for reforestation activities for the necessary time after project close	Planted seedlings in the reforestation pilot sites require a minimum of five years of maintenance and care to ensure long-term viability. The project is only a four year project, and a majority of the planting has taken place in the middle portion of the project. Thus resources will be required to sustain maintenance of the pilot sites for approximately three years beyond the completion of the project.	By at least the beginning of the final year of the project, there should be a focus on ensuring resources will be available to support the maintenance of the reforested pilot sites. There is currently a verbal agreement with Hayantar SNCO that they will continue to support the sites after the project is completed – this agreement should be formalized in writing, with specification of the required financial resources that will be required to support the maintenance of the sites for the required three years after project close. At the same time, additional potential sources of support should be explored, with specific agreements in place if possible. For example, it has been suggested that Arevik National Park could use resources expected to be received from the Caucuses Nature Fund to support ongoing maintenance of the Meghri site (located in Arevik National Park). On the whole, exit strategy planning for all aspects of the project should be carried out during the final year of the project. Various project results may require follow-up after project completion, such as ensuring implementation of forest management plans with climate change adaptation considerations, maintenance of fire-fighting equipment, and environmental monitoring.
Priority: Integration of climate change adaptation management recommendations in forest enterprise management plans.	The project is producing technical recommendations for integration of climate change adaptation management in the 10-year management plans that have already been produced for the various forest enterprise units. It is anticipated that these recommendations will be formally incorporated in the forest management plans.	Considering that the forest management plans specify the management measures for Armenia's forests, the integration or mainstreaming of climate change adaptation planning and management in the forest enterprise management plans will likely be the most significant long-term result for the project. The project team has identified the necessary legal strategy for formal incorporation of these recommendations, and there are no specific risks foreseen for this activity. However, given the importance of this activity and the fact that official government processes often take longer than expected, the project team should pay particular attention to this activity to ensure completion by the end of the project.
Priority: Completion of testing of biological pest control	As highlighted above, there are a number of remaining steps for successful piloting of the biological pest control agent – contracting an	Pushing the testing process forward should remain a priority for the project team over the coming 12 months to ensure that a field trial is achieved. Without testing under this project the level of knowledge and expertise with regard to biological pest control is not likely to

	appropriate manufacturer, synthesizing adequate quantities, dispersing for testing in the field, and monitoring to assess effectiveness at a broad scale. There is only one year remaining in which this could be carried out, as even with a six month project extension (to May 2013) there would not be time to apply the control agent before the pest season and monitor the results.	advance significantly in Armenia in the near future.
Priority: Focus on fire prevention and control measures	There are currently not adequate laws and regulations in place to legally control anthropogenic-based fires, and intentional burning of agricultural fields continues to be a major threat. The project has thus far invested heavily in fire fighting equipment, but fire prevention is also critically necessary.	A multipronged strategy for fire prevention is necessary. A significant continuous information and awareness campaign at the community level is necessary to combat the perception that uncontrolled burning of agricultural fields is acceptable. Education and awareness on fire control should be conducted directly with the relevant local stakeholders, but could also be instituted broadly through school level campaigns, and other mechanisms, even taking as an example the "fire danger" rating system employed in the United States, and the "Smokey the Bear" public awareness campaign. Fire fighting capacity, and legal enforcement measures are also important, but investing in prevention and control measures may provide a better long-term return on investment.

VI. Key GEF Performance Parameters

A. Sustainability

96. While a sustainability rating is provided here as required, sustainability is a temporal and dynamic state that is influenced by a broad range of shifting factors. It should be kept in mind that the important aspect of sustainability of GEF projects is the sustainability of results, not necessarily the sustainability of activities that produced results. In the context of GEF projects there is no clearly defined timeframe for which results should be sustained, although there is the implication that they should be sustained indefinitely. The greater the time horizon, the lower the degree of certainty possible when evaluating sustainability.

97. In addition, by definition, mid-term evaluations are not well-positioned to provide ratings on sustainability considering that many more activities will be undertaken that may positively or negatively affect the likelihood of sustainability of project results. Based on GEF evaluation policies and procedures, the overall rating for sustainability cannot be higher than the lowest rating for any of the individual components. Therefore the overall **sustainability** rating for the Armenia Forests Adaptation project for this mid-term evaluation is *moderately likely*.

i. Financial Risks to Sustainability

98. Financial sustainability is considered *moderately likely*, in light of small risks on a few key issues. Among the key considerations for financial sustainability is the question of resources to support an additional three years of agro-technical maintenance at the reforestation sites, as highlighted in Table 8 above. According to the project team, Hayantar has stated several times that they will assume responsibility for this activity until the sites no longer require maintenance, but the project team plans to secure a formal commitment in writing before the end of the project. This will be an important indicator of long-term financial sustainability at the end of the project. Other avenues to ensure support at the demonstration sites are being pursued as well – at the Meghri site in Arevik National Park, it has been proposed that some of the funding the park is receiving from the Caucuses Nature Fund in upcoming years could be used to support the maintenance of the reforested area. One stakeholder estimated that maintenance costs would be a few thousand dollars per year per site once the project is finished, to be used for the labor to support watering, brush clearing, and agro-technical care.

99. Planning for long-term financial sustainability will be important, particularly for sustainability of fire fighting capacity, as the equipment has an expected depreciation period. The relevant government institutions will need to begin planning for re-investing in fire-fighting equipment once the current equipment reaches the end of its useful life.

100. In terms of the enabling environment, there are no significant financial requirements expected once the recommendations for forest management climate change adaptation measures are incorporated in the regional forest management plans. The regional forest enterprises will base their management approach over the next 10 years on the government approved management plans. The individual and institutional capacity developed with project support is naturally self-sustaining, as is the awareness of climate change adaptation issues built among government and community stakeholders. However it is not anticipated that the project will completely fulfill Armenia's needs on either capacity development or awareness raising, and there will be a need for more such activities once the project is completed.

ii. Sociopolitical Risks to Sustainability

101. There are limited sociopolitical risks to the sustainability of project results, and sustainability in this aspect is considered *likely*. Sustainability will need to be established at the regional level in terms of the level of community awareness related to fire management, and mechanisms to continue awareness building once the project is complete. The ongoing challenge will be to educate and convince local stakeholders that authorities must be notified before fields are burned, and the fires must be monitored once started. This shift in mindset will take years to be realized.

iii. Institutional Framework and Governance Risks to Sustainability

102. The key specific risk in this area is the ability of the project team and partners to ensure the incorporation of climate change adaptation strategies in the forest management plans, as discussed in Table 8 and Section V.A.i of this report. At the current juncture, this result is on track, but needs continued attention during the implementation period. In the longer term, these forest management plans, including the relevant adaptation measures, will need to be

implemented and monitored. There also remains significant individual and institutional capacity development needs at the regional level to support effective forest management that is responsive to climate change, including ongoing efforts on fire management and pest control. Overall, sustainability in this regard is presently considered *likely*.

iv. Environmental Risks to Sustainability

103. Ironically, among the biggest threats to the project results is climate variability, with an increasing threat of drought, leading to reduced survival of the seedlings in the reforested areas, and the likelihood of increased fire damage and pest infestations. The year 2010 was a critical drought year, resulting in a large increase in the area in Syunik marz burned by fires. Should there be years in the near future with limited rainfall in the key summer months (June through September), the reforested sites would be negatively affected, and would require increased maintenance (particularly watering) to support the survival of the planted seedlings. Multiple stakeholders at the site level identified this issue as the greatest risk to project results. Stakeholders also noted the increasing risks to tree seedlings and natural regeneration due to rodents, potentially as a result of the decreased use of pesticides over the past decade. Given the potential environmental risks, sustainability in this area is considered *moderately likely*.

B. Catalytic Role: Replication and Scaling-up

104. As previously discussed in Section V.A.iii, Outcome 3 of the project focuses on learning and replication of lessons learned under the project, and includes activities that will mostly be completed in the second half of project implementation. Synergies between this project and other related initiatives have been highlighted in Section IV.E previously. Given the innovative nature of the project and the fact that climate change adaptation is a developing field, the final lessons and experiences from this project should be widely disseminated and shared among practitioners in the field. In this respect, a few key knowledge-sharing documents should be developed at the end of the project. These would include updating of the short project case study previously produced for the Adaptation Learning Mechanism[33] to briefly summarize the approach and results of the project of building climate resilience through strengthened forestry management practices. While the Adaptation Learning Mechanism is intended to serve as an information clearing house and knowledge base, knowledge products produced by the project should be proactively distributed more widely. For example, the GEF website currently has only two "success stories" available from projects supported under the SPA.[34]

105. While the main project activities are limited to Goris, Kapan and Meghri sub-districts of Syunik marz, the project is also involving when possible the fourth sub-district of the region, Sisian. There are also plans to reach out and share lessons and knowledge with other key regions such as Vayots Dzor.

[33] http://www.adaptationlearning.net/experience/alm-case-study-2010-adaptation-climate-change-impacts-mountain-forest-ecosystems-armenia.
[34] http://www.thegef.org/gef/node/4629.

C. Monitoring and Evaluation

i. Project Monitoring, Reporting, and Evaluation

106. The project document includes a section on monitoring and evaluation, noting that M&E will be conducted in according with established GEF and UNDP procedures. Specifically, "The M&E plan includes: inception report, annual project implementation reviews, quarterly operational reports, and independent mid-term and final evaluations." An annual audit was also foreseen. Roles, responsibilities and budgets were not clearly outlined in the M&E plan, as they are in present good practice UNDP-GEF standard table format M&E plans. Annex 4 of this evaluation includes a generic standard M&E plan that could be modified for use by the project team to ensure the project's current M&E practices remain on track. According to the project team, the expected budget expenditure for M&E activities is approximately $30,000, which is appropriate for a GEF MSP. The project document notes that the M&E plan will be finalized at the project inception workshop; following the workshop the logframe indicators received some minor revisions. Overall the project logframe is adequate, and has some strengths. This evaluation recommends some further revisions to the logframe at the mid-point of the project, as outlined in Table 7.

107. Overall the M&E "plan" described in words in the project document has been implemented as planned. Project reporting has been comprehensive and timely, including inputs to the MoNP for upward reporting at the national level summarizing progress of various activities, which the MoNP does quarterly. The project quarterly operational reports are relatively brief, which is acceptable to ensure that frequent reporting doesn't become burdensome for the project team. At the same time, this evaluation recommends that the content of the quarterly operational reports be structured in relation to the project outcomes and outputs for clarity, and to ensure comprehensiveness.

108. One interesting M&E aspect for future consideration is that according to the MoNP the government is investigating and planning for potential future ex-post evaluations of donor funded projects, with the goal of improving the efficiency and effectiveness of donor support in the country. This follows the trend of increasingly common country-led monitoring and evaluation systems for development evaluation.[35]

ii. Environmental Monitoring

109. The Armenian State Hydrometeorology and Monitoring Service (Hydromet) conducts hydro-meteorological observations, and implements hydro- meteorological and environmental monitoring programs of state importance. This agency also compiles this data in a central resource, and conducts specific scientific studies. Climate change data will continue to be monitored and tracked under the ongoing activities and mandate of this agency. As discussed in Section V.A.i, the project is working with Hayantar and Hydromet to develop meteorological forecasts that support the needs of forest management in the context of responding to climate variability and climate change over time.

[35] See http://groups.yahoo.com/group/Country_Led_Evaluation/.

110. With respect to forests, at the general level, the involved regional forest enterprises monitor their respective forest areas through their regular presence in the field. At the site level, local experts are carrying out at least annual monitoring of the pilot reforestation sites to assess the progress and survival rate of the planted seedlings.

111. There is no comprehensive biodiversity monitoring system in Armenia. Some organizations are conducting monitoring of certain taxonomic groups in limited areas – for example, WWF is working to monitor large mammals in key ecosystems in the southeast part of the country, and monitoring of birds in key locations is carried out by national and international civil society and research institutes (e.g. BirdLife International).

112. The Acopian Center for the Environment was contracted to identify some possible biodiversity indicators in Armenia's forest ecosystems that could also be used to track human and climate change impacts. Monitoring has focused on the taxonomic groups of birds and butterflies, based on criteria such as cost-effectiveness of monitoring, the availability of historical data, and the limited necessity of training for non-specialists. Birds typically are not directly influenced by temperature fluctuations, but their food and habitat can be. For example, increasing aridity of the forest can be identified if bird species known to favor arid habitats are increasingly found in the forest. Butterflies do depend more on temperatures, and thus can also be monitored to identify changes in climate. Preliminary training for regional forest enterprise staff was conducted on the recognition of 15 butterfly species. Remote monitoring of birds through audio recording was also tested, with promising results. Also, as described in Section V.A.ii, the Acopian Center is working to develop an "early warning" system for monitoring insect pest infestations, feeding into the biological pest control activities of the project.

113. Experts from the Acopian Center identified the monitoring of ground beetles as a key gap in biodiversity monitoring, based on this taxonomic group's keystone importance in the ecosystem. On the whole, biodiversity monitoring and management is currently not well-integrated in forest management in Armenia. Stakeholders from FREC noted that this is an important gap in Armenia's current approach to forest management, although some initial steps have been taken. With project support, a training on "Syunik forest biodiversity protection with focus to the climate change impacts" was held in December 2010 for foresters and protected area staff in Syunik. Keeping in mind that the project is focused on climate change adaptation and the resiliency of forest ecosystems, project activities include technical inputs to and revisions of the regional forest management plans and the outstanding gap on biodiversity considerations in forest management could be considered a missed opportunity, though it is one that could be rectified through future initiatives.

D. Project Impacts and Global Environmental Benefits

114. The project document describes the expected Global Environmental Benefits as such: "The project will develop adaptive capacities for south-eastern mountain forest ecosystems in Armenia in line with UNFCCC objectives of promoting adaptation to climate change." The project document also notes that benefits are expected in the biodiversity focal area, but does not specify the nature or extent of those benefits. Given that the project is only at the mid-point, it is not yet possible to outline the full project impacts and Global Environmental Benefits. The preliminary impacts are the reforestation of approximately 55 hectares in Syunik

region, though it will be another four to six years before the sustainability of these results can be assessed. It is also anticipated that by the end of the project the full 75,000 hectares of forest in Syunik marz will be positively influenced through a reduction in fire incidence, increased pest control, and forest management plans that have incorporated climate change adaptation considerations.

115. In the biodiversity focal area, it is expected that biodiversity benefits will be generated as the climate resiliency of Armenia's forest ecosystems in Syunik marz is enhanced. However, without specific biodiversity-focused indicators, it is not clear what the anticipated biodiversity benefits will be.

VII. Main Lessons Learned and Recommendations

A. Lessons from the Armenia Forests Adaptation Project

116. Mid-term evaluations are by nature not well positioned to comprehensively identify and describe lessons learned, as project activities and results continue to evolve during implementation. A few key preliminary lessons are highlighted below.

117. ***Lesson:*** Multi-stakeholder Coordination and Cooperation. The project has been successful in bringing together a range of national, regional, and local level stakeholders with diverse institutional mandates to address climate change adaptation issues, which are inherently cross-sectoral in nature. This has been achieved through extensive consultation and a participatory approach from the early stages of project development. There is a recognition that each institution has a role to play, and must be considered a critical partner to achieve a comprehensive approach to addressing the many challenges presented by climate change.

118. ***Lesson:*** Seeking external support and guidance. Early in the project implementation phase it was recognized that the project could benefit from technical expertise from sources beyond national boundaries. The project has leveraged inputs from international experts on a variety of technical issues. This willingness and pro-activeness in seeking external support has been a valuable element of the project's success thus far.

119. ***Lesson:*** Creating synergies through opportunistic partnerships. The project has done an excellent job thus far of identifying synergistic opportunities with related initiatives and relevant partners, such as co-sponsoring trainings and seminars. Even if certain activities are not foreseen in the project workplan, the project team has followed a results-based approach to take advantage of opportunities that contribute to the overall objectives of the project. There are natural financial and substantive limits to the resources that can be diverted for such efforts, but the approach taken thus far is appropriate.

B. Recommendations for the Remaining Implementation Period

120. ***Key Recommendation:*** The project team has identified the necessary legal strategy for formal incorporation of forest management recommendations related to climate change adaptation, and there are no specific risks foreseen for this activity. However, given the importance of this activity and the fact that official government processes often take longer than expected, the project team should pay particular attention to this activity to ensure completion of this critical activity by the end of the project. [*Project Team*]

121. ***Key Recommendation:*** This evaluation recommends that, to clarify the potential use of "scenario planning" as an input to the revision and development of forest management plans, the project team should investigate and discuss the tool of "scenario planning" for climate change in forest management (potentially with the input of international expertise), and share information about this tool with FREC for inclusion, as appropriate, in Forest Enterprise management plans. It would also be appropriate for the project to focus on assisting data users in developing need-based data requests to be addressed at the national level. Along similar lines, the scope of the activity on the establishment of an "an early warning and response system" should be clarified. [*Project Team, Project Partners*]

122. ***Key Recommendation:*** This evaluation recommends a 6-12 month no-cost extension to facilitate the originally planned 48-month implementation period. The officially expected completion date has as yet not been changed from November 2012, although the project did not begin implementation until six months later than expected, in May 2009 rather than November 2008. The current rate of budget disbursement should allow such an extension. [*UNDP Country Office, Project Team, Executing Partners*]

123. ***Recommendation:*** Project quarterly operational reports should be organized under the project outcomes and key outputs for increased clarity and understanding of the report contents. [*Project Team, UNDP Country Office*]

124. ***Recommendation:*** The project partners should begin budgeting now for depreciation of the fire fighting equipment, each component of which has an expected useful life. If there is no financial mechanism to replace the equipment at the end of its useful life this aspect of the project will have low sustainability, as once the equipment is fully depreciated (some of the equipment has an expected five year life) the benefits gained through its procurement (in the form of fire suppression) will also be lost. [*Project Team, Project Partners*]

125. ***Recommendation:*** The project should identify a way to take advantage of the training on forest management for climate change adaptation that has been suggested by the Director of FREC. Target beneficiaries could be foresters from Hayantar who will be responsible for implementing the forest management plans, as well as others at the policy level who will be involved in overseeing the development and updating of forest management plans in the future. [*Project Team, Project Partners*]

126. ***Recommendation:*** There have been a number of activities targeted towards raising community-level awareness and understanding related to climate change and forest adaptation issues. This evaluation recommends that the project seek innovative ways to continue and expand these efforts, for example through the replication of the involvement of schoolchildren in the Meghri demonstration site. [*Project Team, Project Partners*]

127. ***Recommendation:*** The project has overall done an excellent job of leveraging synergies with relevant stakeholders and related initiatives. This evaluation recommends that the project team also seek synergies with the UNDP-GEF SGP to support community-based climate resilience initiatives in Syunik region. [*Project Team*]

128. ***Recommendation:*** To support wider dissemination of the pest early warning monitoring information, this evaluation recommends the training be conducted using a "train the trainer"

approach, or that the training be open to all interested forestry sector professionals, depending on the available resources. [*Project Team and Project Partners*]

C. Project Mid-term Evaluation Ratings

Project Component or Objective	Rating	Qualitative Summary
Project Formulation		
Relevance	S	The project is relevant to the needs and priorities of the Syunik region forest pilot sites, Armenia's national environmental priorities, and GEF and UNFCCC strategies and policies.
Conceptualization/design	S	There are no significant shortcomings with the project design.
Stakeholder participation	S	Participation by relevant stakeholders in project development was a positive aspect of the project design process. The project document includes a detailed stakeholder analysis.
Project Implementation		
Implementation Approach (Efficiency)	S	The project is implemented in an efficient and cost-effective manner, in line with norms and standards for international development projects.
The use of the logical framework	S	The logframe is used as a reference to link project activities to expected results, and supports a result-based approach to project management.
Adaptive management	HS	The de-facto regular communication and strong institutional relationships support regular and on-going adaptive management. Project activities are adjusted to ensure a results-based approach that reflects needs, priorities, and realities on the ground. Project board members indicated that their input is regularly incorporated taken into consideration in project implementation.
Use/establishment of information technologies	S	The project team has not directly widely deployed the use of information technologies, but many of the key project partners have strong technical capacities, for example in GIS mapping and environmental data analysis.
Operational relationships between the institutions involved	S	There are excellent working relationships between the key institutional partners (as well as non-key partners). Many partners highlighted strong communication and partnership as a hallmark of the project. There have been a few delays in some activities due to issues between UNDP operations (particularly procurement) and the project team.
Financial management	S	Project financial management is handled under UNDP's strong fiduciary standards.
Monitoring and Evaluation	S	Overall monitoring and evaluation is considered satisfactory.
M&E design	MS	The project M&E plan represents a standard UNDP M&E approach for GEF-funded projects, and meets GEF and UNDP minimum standards and requirements. The exception is in the consistency of the logframe indicators and targets with SMART criteria., and lack of specificity on roles and responsibilities.
M&E budgeting	S	M&E budgeting is adequate for a project of this size, although a specific M&E budget was not outlined in the project document.
M&E implementation	HS	Project monitoring and reporting has been consistent, comprehensive, and timely.
Stakeholder Participation	S	Stakeholder participation is one of the overall strengths of the project, and this is projected to continue through the remaining implementation period.
Production and dissemination of information	U/A / S	A significant portion of the information dissemination activities of the project are scheduled to be completed in the second half of implementation. The project has done an excellent job with the production and dissemination of information thus far, including producing multiple technical documents in both English and Armenian, as well as a key brochure in Russian.
Local resource users and NGOs participation	S	During the pilot site reforestation activities the project directly employed 103 community members, including 15 women. The regional foresters are key partners in carrying out activities at the site level.
Establishment of partnerships	S	The project team appears to be doing an excellent job of communicating and collaborating with relevant institutions and organizations, including developing synergistic activities. The project has established a partnership Letter of Intent between UNDP, the MoNP, and the World Wildlife Fund.

Project Component or Objective	Rating	Qualitative Summary
Involvement and support of governmental institutions	HS	The project involved a larger number of government institutions (or quasi-government institutions), many of which are represented on the Project Board. The project is handling these relationships in an effective manner, and representatives from government institutions interviewed for this evaluation expressed strong support for the project.
Project Results		
Overall Progress Toward Achievement of Objective and Outcomes (Effectiveness)	S	The project appears to be fully on-track to achieve the overall objectives, with the caveat that the official project completion date be adjusted to accommodate the full 48 month implementation period as planned, to compensate for the six month delay in the start of project activities.
Outcome 1: The enabling environment for integrating climate change risks into forest sector management is in place	S	Considering that this is the mid-term evaluation, the rating represents progress toward achievement of the outcome, not the actual achievement as yet, which would be rated under the terminal evaluation. The relevant activities under this outcome (e.g. recommendations for forest management plans, etc.) are on track, and expected to be completed as planned.
Outcome 2: Forest and protected area management in the Syunik region integrates pilot adaptation measures to enhance adaptive capacity of mountain forest ecosystems	S	The main pilot adaptation measures carried out to date have been the reforestation of 55 hectares across three pilot sites. There has been valuable technical experience gained during the reforestation activities, and it remains to be seen what the final results will be in terms of survival rates of seedlings, and sustainability of the results following project completion.
Outcome 3: Capacities for adaptive management, monitoring and evaluation, learning, and replication of project lessons are developed	U/A / S	The majority of activities under this outcome are planned for the second half of project implementation. Progress toward this outcome, based on the activities completed thus far, is satisfactory.
Sustainability	ML	The overall rating for sustainability cannot be higher than the lowest rating for any of the individual sustainability components below.
Financial sustainability	ML	Minor risks include the need to ensure support for maintenance of the pilot sites in Goris, Kapan, and Meghri, and the need to plan for depreciation of the fire fighting equipment provided by the project.
Sociopolitical sustainability	L	There are no significant socio-political risks to sustainability, though there is an on-going need to increase community awareness related to fire management and control.
Institutional and governance sustainability	L	There are limited institutional and governance risks to sustainability, assuming that the regional forest plans are amended to include climate change adaptation aspects by the end of the project.
Ecological sustainability	ML	Environmental risks primarily include the potential for drought over the next few years, which could increase fire and pest damage in the region as a whole. Drought would also have a particularly negative influence on the survival of the seedlings in the reforested areas at the project demonstration sites.
Overall Project Achievement and Impact	**S**	

VIII. Annexes

129. Annex 1: Evaluation Terms of Reference
130. Annex 2: GEF Operational Principles
131. Annex 3: Field Visit Schedule and Persons Interviewed
132. Annex 4: Example Generic Good-Practice UNDP-GEF Table Format M&E Plan
133. Annex 5: Evaluation Documentation
134. Annex 6: Evaluator CVs
135. Annex 7: Management Response

Annex 1: Mid-term Evaluation Terms of Reference

Note: For space considerations the annexes of the TORs have not been included.

TERMS OF REFERENCE

FOR

MID-TERM EVALUATION OF THE UNDP/GEF Project: PIMS 3814 - "Adaptation to Climate Change Impacts in Mountain Forest Ecosystems of Armenia"

1. INTRODUCTION

1.1 Standard UNDP/GEF M&E requirements

UNDP/GEF wishes to contract an Evaluation Expert (EE) to carry out Mid-term Evaluation (MTE) of the project "Adaptation to Climate Change Impacts in Mountain Forest Ecosystems of Armenia".

The Monitoring and Evaluation (M&E) policy at the project level in UNDP/GEF has four objectives:

i) to monitor and evaluate results and impacts;
ii) to provide a basis for decision making on necessary amendments and improvements;
iii) to promote accountability for resource use; and
iv) to document, provide feedback on, and disseminate lessons learned.

A mix of tools is used to ensure effective project M&E. These might be applied continuously throughout the lifetime of the project – e.g. periodic monitoring of indicators -, or as specific time-bound exercises such as mid-term reviews, audit reports and independent evaluations.

In accordance with UNDP/GEF M&E policies and procedures, all projects with long implementation periods are strongly encouraged to conduct mid-term evaluations. In addition to providing an independent in-depth review of implementation progress, this type of evaluation is responsive to GEF Council decisions on transparency and better access of information during implementation.

1.2 Project Context

In 2008, Armenia submitted a medium-sized project proposal to the Global Environment Facility (GEF) to receive a financial assistance for measures to enhance adaptive capacity of vulnerable mountain forest ecosystem of the Syunik region of Armenia. In December 2008, the medium-sized project: "Adaptation to Climate Change Impacts in Mountain Forest Ecosystems of Armenia" was signed by UNDP and the Government of Armenia. The project implementation started in May 2009.

The long-term development goal of this medium size project is to assist Armenia in beginning a process by which strategies to moderate, cope with, and take advantage of the consequences of climate change are enhanced, developed, and implemented. The specific objective of the project is to enhance adaptive capacities of the vulnerable mountain forest ecosystems to climate change in the Syunik region.

The duration of the project is four years. Total budget of the project is US$ 900,000 and funded by GEF. The co-financing from the Government of Armenia amounts to US$ 1,900,000 (cash-parallel).

UNDP is the GEF implementing agency for the project; UNDP recruited Project Task Leader and Climate Change Projects Associate are in charge of the project day-to-day management. The UNDP Armenia Climate Change

Projects Coordinator is responsible for overall coordination of the project implementation. The First Deputy Minister of Nature Protection of Armenia has been appointed as UNDP Projects National Director. The project is executed by the Ministry of Nature Protection (MoNP) of Armenia. The UNFCCC National Focal Point is the National Project Coordinator (NPC). The Project Board (PB) is composed of 11 members representing the MoNP, UNDP, as well other governmental, educational and international organizations.

2. OBJECTIVES OF THE EVALUATION

The evaluation is initiated and commissioned jointly by UNDP Armenia Country Office and by the UNDP/GEF regional coordination unit in Bratislava. Mid-term evaluations are intended to identify potential project design problems, assess progress towards the achievement of objectives, identify and document lessons learned (including lessons that might improve design and implementation of other UNDP/GEF projects), and to make recommendations regarding specific actions that might be taken to improve the project. It is expected to serve as a means of validating or filling the gaps in the initial assessment of relevance, effectiveness and efficiency obtained from monitoring. The mid-term evaluation provides the opportunity to assess early signs of project success or failure and prompt necessary adjustments. To this end, the MTE will serve to:

1. Strengthen the adaptive management and monitoring functions of the project;
2. Enhance the likelihood of achievement of the project and GEF objectives through analyzing project strengths and weaknesses and suggesting measures for improvement;
3. Enhance organizational and development learning;
4. Enable informed decision-making;
5. Create the basis of replication of successful project outcomes achieved so far.

Particular emphasis should be put on the current project results and the possibility of achieving all the objectives in the given timeframe, taking into consideration the speed, at which the project is proceeding. More specifically, the evaluation should assess:

Project concept and design
The EE will assess the project concept and design. EE should review the problem addressed by the project and the project strategy, encompassing an assessment of the appropriateness of the objectives, planned outputs, activities and inputs as compared to cost-effective alternatives. The executing modality and managerial arrangements should also be judged. The EE will revise and re-assess the relevance of indicators and targets, review the work plan, planned duration and budget of the project.

Implementation
The EE will assess the implementation of the project in terms of quality and timeliness of inputs and efficiency and effectiveness of activities carried out. Also, the effectiveness of management as well as the quality and timeliness of monitoring and backstopping by all parties to the project should be evaluated. In particular the MTE is to assess the Project Management's use of adaptive management in project implementation.

Project outputs, outcomes and impact
The EE will assess the outputs, outcomes and impact achieved by the project as well as the likely sustainability of project results. MTE should encompass an assessment of the achievement of the immediate objectives and the contribution to attaining the overall objective of the project. The EE should also assess the extent to which the implementation of the project has been inclusive of relevant stakeholders and to which it has been able to create collaboration between different partners. The EE will also examine if the project has had significant unexpected effects, whether of beneficial or detrimental character.

3. DETAILED SCOPE OF WORK

The MTE expert will look at the following aspects:

3.1 Project Concept

3.1.1 Project relevance and strategy: The extent to which the project is suited to local and national development priorities and organizational policies, including changes over time as well as the extent the activities contribute towards attainment of global environmental benefits:

a. How and why project outcomes and strategies contribute to the achievement of the expected results.
b. Examine their relevance and whether they provide the most effective way towards results.
c. Do the outcomes developed during the inception phase still represent the best project strategy for achieving the project objectives (in light of updated underlying factors)? Consider alternatives.
d. Were the relevant country representatives, from government and civil society, involved in the project preparation?
e. Does the recipient government maintain its financial commitment to the project?

3.1.2 Preparation and readiness

a. Are the project's objectives and components clear, practicable and feasible within its timeframe?
b. Were the capacities of executing institution and counterparts properly considered when the project was designed?
c. Were lessons from other relevant projects properly incorporated in the project design?
d. Were the partnership arrangements properly identified and the roles and responsibilities negotiated prior to project approval?
e. Were counterpart resources (funding, staff, and facilities), enabling legislation, and adequate project management arrangements in place at project entry?

3.1.3 Stakeholder participation during project preparation

a. Did the project involve the relevant stakeholders through information-sharing, consultation and by seeking their participation in the project's design?

3.1.4 Underlying Factors/Assumptions

a. Assess the underlying factors beyond the project's immediate control that influence outcomes and results. Consider the appropriateness and effectiveness of the project's management strategies for these factors.
b. Re-test the assumptions made by the project management and identify new assumptions that should be made
c. Assess the effect of any incorrect assumptions made by the project

3.1.5 Project organization/Management arrangements

a. Were the project roles properly assigned during the project design?
b. Are the project roles in line with UNDP and GEF progamme guides?
c. Can the management arrangement model suggested by the project be considered as an optimum model? If no, please come up with suggestions and recommendations

3.1.6 Project budget and duration

a. Assess if the project budget and duration were planned in a cost-effective way?

3.1.7 Design of Project Monitoring and Evaluation system

a. Examine whether or not the project has a sound M&E plan to monitor results and track progress towards achieving project objectives.
b. Examine whether or not the M&E plan includes a baseline (including data, methodology, etc.), SMART indicators and data analysis systems, and evaluation studies at specific times to assess results and adequate funding for M&E activities.
c. Examine whether or not the time frame for various M&E activities and standards for outputs are specified.

3.1.8 Sustainability and replication strategy

a. Assess if project sustainability and replicability strategy was developed during the project design? And assess its relevance

3.1.9 Gender perspective:
a. Extent to which the project accounts for gender differences when developing project interventions.
b. How gender considerations are mainstreamed into project interventions?

3.2 Project Implementation

3.2.1 Project's Adaptive Management

a. Monitoring Systems
- Assess the monitoring tools currently being used:
o Do they provide the necessary information?
o Do they involve key partners?
o Are they efficient?
o Are additional tools required?
- Reconstruct baseline data if necessary . Reconstruction should follow participatory processes and could be achieved in conjunction with a learning exercise
- Ensure the monitoring system, including performance indicators, at least meets GEF minimum requirements . Apply SMART indicators as necessary.
- Apply the GEF Tracking Tool and provide a description of comparison with initial application of the tool.

b. Risk Management
- Validate whether the risks identified in the project document and PIRs are the most important and whether the risk ratings applied are appropriate. If not, explain why.
- Describe any additional risks identified and suggest risk ratings and possible risk management strategies to be adopted
- Assess the project's risk identification and management systems:
o Is the UNDP-GEF Risk Management System appropriately applied?
o How can the UNDP-GEF Risk Management System be used to strengthen the project management?

c. Work Planning
- Assess the use of the logical framework as a management tool during implementation and any changes made to it
o Ensure the logical framework meets UNDP/GEF requirements in terms of format and content
o What impact did the retro-fitting of impact indicators, if such have on project management
- Assess the use of routinely updated work plans;
- Assess the use of electronic information technologies to support implementation, participation and monitoring, as well as other project activities;
- Are work planning processes result-based ? If not, suggest ways to re-orientate work planning;
- Consider the financial management of the project, with specific reference to the cost-effectiveness of interventions. Any irregularities must be noted.

d. Financial management
- Consider the financial management of the project, with specific reference to the cost-effectiveness of interventions. (Cost-effectiveness: the extent to which results have been delivered with the least costly resources possible. Also called cost-effectiveness or efficacy). Any irregularities must be noted.
- Is there due diligence in the management of funds and financial audits?
- Did promised co-financing materialize? (Please fill the form on co-financing attached table 1).

e. Reporting
- Assess how adaptive management changes have been reported by the project management;
- Assess how lessons derived from the adaptive management process have been documented, shared with key partners and internalized by partners.

f. Delays
- Assess if there were delays in project implementation, then what were the reasons?
- Did the delay affect the achievement of project's outcomes and/or sustainability, and if it did affect outcomes and sustainability then in what ways and through what causal linkages?

3.2.2 UNDP Contribution

- Assess the role of UNDP against the requirements set out in the UNDP Handbook on Monitoring and Evaluating for Results. Consider:

o Field visits
o Participation in Project Board
o Project reviews, PIR preparation and follow-up
o GEF guidance
o Skill mix
o Operational support

- Consider the new UNDP requirements outlined in the UNDP User Guide , especially the Project Assurance role, and ensure they are incorporated into the project's adaptive management framework
- Assess the contribution to the project from UNDP in terms of "soft" assistance (i.e. policy advice & dialogue, advocacy, and coordination) and suggest measures to strengthen UNDP's soft assistance to the project management.

3.2.3 Stakeholder Participation, Partnership Strategy

a. Assess whether or not local stakeholders participate in project management and decision-making. Include an analysis of the strengths and weaknesses of the approach adopted by the project and suggestions for improvement if necessary;
b. Consider the dissemination of project information to partners and stakeholders and if necessary suggest more appropriate mechanisms;
c. Identify opportunities for stronger partnerships;

3.2.4 Implementation of replication approach;

a. Sustainability: extent to which the benefits of the project will continue, within or outside the project scope, after it has come to an end. The evaluators may look at factors such as establishment of sustainable financial mechanisms, mainstreaming project objectives into the broader development policies and sectoral plans and economies or community production;

3.3 Project Results (Outputs, Outcomes and Impact)

3.3.1 Progress towards achievement of intended outcomes/measurement of change: Progress towards results should be based on a comparison of indicators before and after (so far) the project intervention, e.g. by comparing current conditions for development of Protected Areas management effectiveness, financial sustainability and capacity to the baseline ones;

4. PRODUCTS EXPECTED FROM THE EVALUATION

➢ Detailed methodology, work plan and outline;
➢ Mid-term evaluation report with findings;
➢ Lessons learned and recommendations for improvement, including recommendations for the revision of project strategy, approach, outputs and activities, if necessary;
➢ Recommendations for a strategy for future replication of the project approach for other types of the biodiversity projects, for other countries in the region;
➢ Description of best practices, and an "action list" in a certain area of particular importance for the project.

5. EVALUATION METHODOLOGY

The project progress and achievements will be tested against following GEF evaluation criteria:

(i) Relevance – the extent to which the activity is suited to local and national development priorities and organizational policies, including changes over time.
(ii) Effectiveness – the extent to which an objective has been achieved or how likely it is to be achieved.
(iii) Efficiency – the extent to which results have been delivered with the least costly resources possible.
(iv) Results/impacts – the positive and negative, and foreseen and unforeseen, changes to and effects produced by a development intervention. In GEF terms, results include direct project outputs, short-to medium term outcomes, and longer-term impact including global environmental benefits, replication effects and other, local effects.
(v) Sustainability – the likely ability of an intervention to continue to deliver benefits for an extended period of time after completion. Projects need to be environmentally as well as financially and socially sustainable.

The Project will be rated against individual criterion of relevance, effectiveness, efficiency and impact/results based on the following scale:

- Highly Satisfactory (HS): The project has no shortcomings in the achievement of its objectives.
- Satisfactory (S): The project has minor shortcomings in the achievement of its objectives.
- Moderately Satisfactory (MS): The project has moderate shortcomings in the achievement of its objectives.
- Moderately Unsatisfactory (MU): The project has significant shortcomings in the achievement of its objectives.
- Unsatisfactory (U) The project has major shortcomings in the achievement of its objectives.
- Highly Unsatisfactory (HU): The project has severe shortcomings in the achievement of its objectives.

As for sustainability criteria the evaluator should at the minimum evaluate the "likelihood of sustainability of outcomes at project termination, and provide a rating for this.

The following four dimensions or aspects of sustainability should be addressed:

Financial resources:
a. Are there any financial risks that may jeopardize sustenance of project outcomes?
b. What is the likelihood of financial and economic resources not being available once the GEF assistance ends (resources can be from multiple sources, such as the public and private sectors, income generating activities, and trends that may indicate that it is likely that in future there will be adequate financial resources for sustaining project's outcomes)?

Socio-political:
c. Are there any social or political risks that may jeopardize sustainability of project outcomes?
d. What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained?
e. Do the various key stakeholders see that it is in their interest that the project benefits continue to flow?
f. Is there sufficient public / stakeholder awareness in support of the long term objectives of the project?

Institutional framework and governance:
a. Do the legal frameworks, policies and governance structures and processes pose risks that may jeopardize sustenance of project benefits?
b. While assessing this parameter, also consider if the required systems for accountability and transparency, and the required technical know-how are in place.

Environmental:
a. Are there any environmental risks that may jeopardize sustenance of project outcomes? The evaluation should assess whether certain activities will pose a threat to the sustainability of the project outcomes. For example,

construction of dam in a protected area could inundate a sizable area and thereby neutralizing the biodiversity related gains made by the project.

On each of the dimensions of sustainability of the project outcomes will be rated as follows:

➢ Likely (L): There are no or negligible risks that affect this dimension of sustainability.
➢ Moderately Likely (ML): There are moderate risks that affect this dimension of sustainability.
➢ Moderately Unlikely (MU): There are significant risks that affect this dimension of sustainability
➢ Unlikely (U): There are severe risks that affect this dimension of sustainability.

All the risk dimensions of sustainability are critical. Therefore, overall rating for sustainability will not be higher than the rating of the dimension with lowest ratings. For example, if a project has an 'Unlikely' rating in either of the dimensions then its overall rating cannot be higher than 'Unlikely'.

The evaluator(s) should develop detailed methodology and work plan for MTE during the preparatory phase of the MTE. The MTE tools and techniques may include, but not limited to:

➢ Desk review;
➢ Interviews with major stakeholders, including UNDP/GEF project implementing and executing agencies, government representatives, etc.
➢ Field visits to the project sites;
➢ Questionnaires;
➢ Participatory techniques and other approaches for gathering and analysis of data.

An indicative outline of the Mid-term Evaluation Report is presented below.

6. INDICATIVE OUTLINE OF THE MID-TERM EVALUATION REPORT

The key product expected from this mid-term evaluation is a comprehensive analytical report in English that should, at least, include the following contents:

➢ Executive summary (1-2 pages)
• Brief description of the project
• Context and purpose of the evaluation
• Main conclusions, recommendations and lessons learned

➢ Introduction (2-3 pages)
• Project background
• Purpose of the evaluation
• Key issues to be addressed
• Methodology of the evaluation
• Structure of the evaluation

➢ Project and its development context (3-4 pages)
• Project start and its duration
• Implementation status
• Problems that the project seek to address
• Immediate and development objectives of the project
• Main stakeholders
• Results expected

➢ Key findings (including best practice and lessons learned, assessment of performance) (8-10 pages)

• Project formulation
- Project relevance
- Implementation approach
- Country ownership/Driveness

- Stakeholder participation
- Replication approach
- Cost-effectiveness
- UNDP comparative advantage
- Linkages between project and other interventions within the sector
- Indicators
- Management arrangements

• Implementation
- Financial management
- Monitoring and evaluation
- Execution and implementation modalities
- Management by the UNDP country office
- Coordination and operational issues
- Identification and management of risks (adaptive management)

• Results
- Attainment of objectives
- Prospects of sustainability
- Contribution to upgrading skills of the national staff

➢ Conclusions and recommendations (4 – 6 pages)
• Corrective actions for the design, duration, implementation, monitoring and evaluation of the project
• Actions to follow up or reinforce initial benefits from the project
• Proposals for future directions underlining main objectives
• Suggestions for strengthening ownership, management of potential risks

➢ Lessons learned (3 – 5 pages)
• Best and worst practices in addressing issues relating to relevance, performance and success

➢ Annexes
• TOR
• Itinerary
• List of persons interviewed
• Summary of field visits
• List of documents reviewed
• Questionnaire used and summary of results

The length of the mid-term evaluation report shall not exceed 30 pages in total (not including annexes).

7. MANAGEMENT ARRANGEMENTS

The mid-term evaluation will be carried out by Mid-term Evaluation Expert. The logistical support and venue to the MTE Expert will be provided by the UNDP Armenia CO under overall supervision of Environmental Governance Portfolio Analyst and Portfolio Associate. The principal responsibility for managing this evaluation lies with UNDP-Armenia.

8. DURATION OF THE MID-TERM EVALUATION

It is expected to start MTE by the end of May / beginning of June, 2011 and is planned to be conducted within 12 consultancy days. The proposed period for the in-country mission to Armenia is the first half of June 2011. The assignment is to be completed no later than 30 June 2011.

9. DUTIES, SKILLS AND QUALIFICATIONS OF EVALUATION EXPERT

International Expert

Duties and Responsibilities:

➢ Desk review of documents, development of draft methodology, detailed work plan and MTE outline (maximum 2-day homework);
➢ Debriefing with UNDP CO, agreement on the methodology, scope and outline of the MTE report (0.5 day);
➢ Interviews with project implementing partner (executing agency), relevant Government, NGO and donor representatives and UNDP/GEF Regional Technical Advisor (maximum 2 day);
➢ Field visit to the pilot project sites and interviews with Tusheti PA administration key staff (3 days);
➢ Debriefing with UNDP and project implementing partner (0.5 day);
➢ Development and submission of the first MTE report draft (maximum of 3 days). Submission due is in two weeks after the in-country mission. The draft will be shared with the UNDP CO, UNDP/GEF (UNDP/GEF RCU Bratislava) and key project stakeholders for review and commenting;
➢ Finalization and submission of the final MTE report through incorporating suggestions received on the draft report (maximum 1 day).

Required Qualifications and Competencies:

Minimum qualification requirements:
• Advanced university degree in Forest Management, Environmental and/or Natural Resource Management or other related areas;
• 7 years of working experience in providing management or consultancy services to the forest and/or environmental management projects;
• Experience in monitoring and evaluating forest and/or environmental management projects for UN or other international development agencies (at least in one project);
• Fluency in English both written and spoken;
• E-literacy;

Technical qualification criteria for short-listing:
• Higher Education
• Experience/technical knowledge:
a. Experience in providing management or consultancy services to the forest and/or environmental management projects;
b. Experience in monitoring and evaluating forest and/or environmental management projects for UN or other international development agencies;
c. Sound knowledge in results-based management (especially results-oriented monitoring and evaluation);
d. Knowledge of GEF M&E guidelines and procedures;
e. Knowledge of the CIS region and particularly Armenia's context is an asset;
• Other skills: Technical writing skills in English

Competencies:
• Ability to critically analyze issues, find root-causes and suggest optimum solutions;
• Ability to interact with a wide range of partners: government officials, development agencies and etc.;
• Excellent team working and management skills;

CV and P11 should provide evidence on the abovementioned qualifications and competencies.
Evaluation Criteria:
Experts will be evaluated against combination of technical and financial criteria. Technical evaluation stage encompasses desk review of applications. Experts not meeting any of minimum technical qualification requirements will be automatically excluded from the list of candidates for further technical evaluation.
Maximum obtainable score is 100, out of which the total score for technical criteria equals to 70 points (70%) and for financial criteria 30 (30%). Candidates who pass 70% of maximum obtainable scores of the technical criteria (i.e. 70 x 70% = 49 points) as a result of a desk review of applications will be considered as short-listed candidates.
Only candidates who pass 70% of total technical score will be requested to submit financial proposals – daily consultancy fee.
A maximum of 30 points will be assigned to the lowest price offer. All other price offers will receive

points in inverse proportion, using the formula:
Financial score offer X = 30*the lowest price/price offer X, Y, etc.)

Technical score: 70 points (70%) Financial score: 30 points (30%) Total score: 100 points
1. Education Background 2. Work Experience, knowledge
3. Other, English knowledge Proposed price Price score

1.1Minimum qualification requirement:
Master's degree in Forest and/or Environmental Management or other related areas: 10 points:

1.2 PhD – additional 5 points
2.1.1 Minimum qualification requirement
7 years of working experience in providing management or consultancy services to the forest and/or environmental management projects: 15 points
2.1.2 Between 7 and 10 years – additional 5 points;

2.1.3 More than 10 years – additional 10 points 2.2.1 Minimum qualification requirement Experience in monitoring and evaluating forest and/or environmental management projects for UN or other international development agencies (at least in one project): 1 points

2.2.2 2-3 projects – additional 2 points;

2.2.3 More than 3 projects – additional 4 points ;
2.3 Knowledge of the CIS region and particularly Armenia's context: 5 points

2.4 Knowledge of GEF M&E guidelines and procedures: 5 points
2.5
Sound knowledge in results-based management (especially results-oriented monitoring and evaluative): 5 points

3.1 Minimum qualification requirement: Fluency in English both written and spoken: 5 points

3.2 Technical writing skills in English: Additional 5 points

15 25 5
5
5 5 10 30 100
*For minimum qualification criteria/requirement either maximum obtainable score or 0 (zero) should be assigned to the candidate; Applicant not meeting any of minimum qualification criteria, will be automatically excluded from the list of applicants for further evaluation

** For technical criteria additional to minimum criteria any score between 0 (zero) and maximum obtainable score can be assigned to the applicants

** *Scores against criteria 1.1, 1.2; 2.1.1, 2.1.2, 2.1.3; 2.2.1, 2.2.2, 2.2.3; 2.3; 2.4; 2.5 and 3.1; will be assigned to the applicants based on CVs and/or filled in P11 forms.
*** Scores against criteria 3.2 will be assigned to the applicants based on CVs and/or filled in P11 forms and maximum 1-page technical writing samples to be submitted to UNDP as part of applications.

Contract Type, Duration and Payment Modality:

The consultant will be hired for maximum 12 days under Individual Contract (IC) / Special Service Agreement (SSA) with maximum 6 days of home work and maximum 6 days of in-country mission to Armenia. He/she will be paid daily consultacy fee and travel costs (economy class ticket, DSA, visa, and terminal expanses). DSA payments will be made based on actual workdays spent in Armenia according to the UN official rate. Fee payments will be made after the submission of the final MTE report.

Duty Station:

Home based with an in-country mission to Armenia.

10. LIST OF DOCUMENTS TO BE REVIEWED

1. Project document and its annexes;
2. Project Inception Report
3. Project Annual (multiyear) Work Plans;
4. Project annual work programmes;
5. Project financial work plans (recruitment and procurement) and expenditure reports;
6. Annual/Quarter operational and progress reports;
7. 2010 UNDP/GEF Project Implementation Review (APR/PIR);
8. Minutes of the PB meetings;
9. Minutes of the stockholder meetings;
10. GEF Monitoring and Evaluation Policies;
11. Handbook on planning, monitoring and evaluating for development results;
12. Other upon request.

11. EVALUATION POLICY

The evaluators should follow the major GEF principles for evaluation :

- ➢ Independence
- ➢ Impartiality
- ➢ Transparency
- ➢ Disclosure
- ➢ Ethics
- ➢ Partnership
- ➢ Competencies and Capacities
- ➢ Credibility
- ➢ Utility

The EE must be independent from both the policy-making process and the delivery and management of assistance. Therefore applications will not be considered from EE who have had any direct involvement with the design or implementation of the project. Any previous association with the project must be disclosed in the application.

If selected, failure to make the above disclosures will be considered just grounds for immediate contract termination, without recompense. In such circumstances, all notes, reports and other documentation produced by the evaluator will be retained by UNDP.

12. APPLICATION:

A complete application package should consist of an online Personal History Form (P11), CV and a letter of motivation.

Annex 2. GEF Operational Principles

http://www.gefweb.org/public/opstrat/ch1.htm

TEN OPERATIONAL PRINCIPLES FOR DEVELOPMENT AND IMPLEMENTATION OF THE GEF'S WORK PROGRAM

1. For purposes of the financial mechanisms for the implementation of the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change, the GEF will **function under the guidance of, and be accountable to, the Conference of the Parties** (COPs). For purposes of financing activities in the focal area of ozone layer depletion, GEF operational policies will be consistent with those of the Montreal Protocol on Substances that Deplete the Ozone Layer and its amendments.

2. The GEF will provide new, and additional, grant and concessional funding to meet the agreed **incremental costs** of measures to achieve agreed global environmental benefits.

3. The GEF will ensure the **cost-effectiveness** of its activities to maximize global environmental benefits.

4. The GEF will fund projects that are **country-driven** and based on national priorities designed to support sustainable development, as identified within the context of national programs.

5. The GEF will maintain sufficient **flexibility** to respond to changing circumstances, including evolving guidance of the Conference of the Parties and experience gained from monitoring and evaluation activities.

6. GEF projects will provide for **full disclosure** of all non-confidential information.

7. GEF projects will provide for consultation with, and **participation** as appropriate of, the beneficiaries and affected groups of people.

8. GEF projects will conform to the **eligibility** requirements set forth in paragraph 9 of the GEF Instrument.

9. In seeking to maximize global environmental benefits, the GEF will emphasize its **catalytic role** and leverage additional financing from other sources.

10. The GEF will ensure that its programs and projects are **monitored and evaluated** on a regular basis.

Annex 3. Evaluation Field Visit Schedule and Persons Interviewed

Time	Venue	Purpose	Other Participants
10 June 2011 – Yerevan			
09:30-11:00	Project office	• Meeting with the Project Management	• Ms. Diana Harutyunyan, CC Related AWPs Coordinator • Mr. Aram Ter-Zakaryan, Project Task Leader • Ms. Rubina Stepanyan, CC Related AWPs Associate • Ms Tatevik Vahradyan, Expert Team Assistant
11:00-13:00	UNDP CO	• Meeting with UNDP Senior Management and UNDP Environmental Governance Portfolio	• Mr. Dirk Boberg, UNDP DRR • Mr. Armen Martirosyan, EG Portfolio Analyst • Mr. Aram Ter-Zakaryan, Project Task Leader
14:30-16:00	"Hayantar"(ArmForest) SNCO	• Meeting with Project Responsible Partner	• Mr. Ruben Petrosyan, Deputy Director, Chief Forester, "Hayantar" SNCO, Ministry of Agriculture of RA • Mr. Aram Ter-Zakaryan, Project Task Leader • Ms. Shushanik Avagyan, Interpreter
16:00-18:00	Project office	• Meeting with the Project Management and Team	• Ms. Diana Harutyunyan, CC Related AWPs Coordinator • Mr. Aram Ter-Zakaryan, Project Task Leader • Ms. Rubina Stepanyan, CC Related AWPs Associate • Ms. Tatevik Vahradyan, Expert Team Assistant • Mr. Armen Nalbandyan, National Consultant • Mr. Artashes Manaseryan, National Expert
11 June 2011 – Syunik Marz			
15:30-16:30	Office of Kapan Forest Enterprise (FE) of "Hayantar" SNCO	• Meeting with Head and Staff of Kapan FE	• Mr. Vladik Mirzoyan, Head of Kapan FE • Mr. Seryozha Azatyan, Chief Forester, Kapan FE • Mr. Arsen Vardanyan, Deputy Head for Protection Issues, Kapan FE • Mr. Norayr Barseghyan, Forester of Davit Bek Forest Area, Kapan FE • Mr. Andranik Hayrapetyan, Forester of Arajadzor Forest Area, Kapan FE • Mr. Levon Movsisyan, Forest Ranger of Davit Bek Forest Area, Kapan FE • Mr. Nelson Stepanyan, Forest Ranger of Davit Bek Forest Area, Kapan FE • Mr. Aram Ter-Zakaryan, Project Task Leader • Ms Tatevik Vahradyan, Expert Team Assistant (Interpreter) • Mr. Vladik Martirosyan, Project Local Expert
17:00-18:30	Kapan FE	• Visit to forest rehabilitation pilot project site	• Mr. Vladik Mirzoyan, Head of Kapan FE • Mr. Seryozha Azatyan, Chief Forester, Kapan FE • Mr. Arsen Vardanyan, Deputy Head on Protection Issues, Kapan FE • Mr. Norayr Barseghyan, Forester of Davit Bek Forest Area, Kapan FE • Mr. Andranik Hayrapetyan, Forester of Arajadzor Forest Area, Kapan FE • Mr. Levon Movsisyan, Forest Ranger of Davit Bek Forest Area, Kapan FE • Mr. Nelson Stepanyan, Forest Ranger of Davit Bek Forest Area, Kapan FE • Mr. Aram Ter-Zakaryan, Project Task Leader • Ms Tatevik Vahradyan, Expert Team Assistant (Interpreter) • Mr. Vladik Martirosyan, Project Local Expert • Mr. Artur Ohanyan, Logistic/Driver

12 June 2011 – Syunik Marz			
10:00-12:00	Office of "Arevik" National Park" SNCO	• Meeting with Director and Staff of "Arevik" National Park" SNCO	• Mr. Suren Hovhannisyan, Director, "Arevik" National Park" SNCO • Mr. Armen Nikoghosyan, Deputy Head on Protection Issues, "Arevik" National Park" SNCO • Mr. Rafik Mkrtchyan, Deputy Head on Scientific Issues, Arevik" National Park" SNCO • Mr. Stepan Markosyan, Head of Agarak-Boghakar Sector, "Arevik" National Park" SNCO • Ms. Naira Hovsepyan, Chief Accountant, Arevik" National Park" SNCO • Ms. Narine Avagyan, HR Officer, Arevik" National Park" SNCO • Mr. Hrantik Hakobyan, Inspector, Arevik" National Park" SNCO • Mr. Samvel Arakelyan, Ranger of the Administartive Building, "Arevik" National Park" SNCO • Mr. Aram Ter-Zakaryan, Project Task Leader • Ms Tatevik Vahradyan, Expert Team Assistant (Interpreter)
13:00-15:00	"Arevik" National Park	• Visit to forest rehabilitation pilot project site	• Mr. Suren Hovhannisyan, Director, "Arevik" National Park" SNCO • Mr. Armen Nikoghosyan, Deputy Head on Protection Issues, "Arevik" National Park" SNCO • Mr. Artak Tumanyan, Head of Nyuvadi-Shvanidzor Sector, "Arevik" National Park" SNCO • Mr. Hrantik Hakobyan, Inspector, Arevik" National Park" SNCO • Mr. Aram Ter-Zakaryan, Project Task Leader • Ms Tatevik Vahradyan, Expert Team Assistant (Interpreter) • Mr. Vladik Martirosyan, Project Local Expert (TBC) • Mr. Artur Ohanyan, Logistic/Driver
13 June 2011 – Syunik Marz			
10:00-11:00	Olimpia Hotel, Goris	• Meeting with Director and Staff of Syunik(Goris) FE	• Mr. Grisha Hayrapetyan, Head of Syunik FE • Mr. Lazer Yuzbashyan, Chief Forester • Mr. Aram Ter-Zakaryan, Project Task Leader • Mr. Arman Aleksanyan, Project Local Monitor • Ms Tatevik Vahradyan, Expert Team Assistant (Interpreter)
11:30-13:00	Syunik(Goris) FE	• Visit to forest rehabilitation pilot project site	• Mr. Grisha Hayrapetyan, Head of Syunik FE • Mr. Lazer Yuzbashyan, Chief Forester • Mr. Gagik Bakhshyan, Head of Shurnukh Forest Area, Syunik FE • Mr. Azat Badalyan, Head of Artsvanik Forest Area, Syunik FE • Mr. Khachik Ohanyan, Head of Goris Forest Area, Syunik FE • Mr. Aram Ter-Zakaryan, Project Task Leader • Ms Tatevik Vahradyan, Expert Team Assistant (Interpreter) • Mr. Arman Aleksanyan, Project Local Monitor • Mr. Artur Ohanyan, Logistic/Driver
14 June 2011 – Yerevan			
09:30-11:00	Project office	• Meeting with the Project Management	• Mr. Aram Ter-Zakaryan, Project Task Leader • Ms. Rubina Stepanyan, CC Related AWPs Associate • Ms Tatevik Vahradyan, Expert Team Assistant
11:00-13:00	Ministry of Nature Protection	• Meeting with Project Implementing and Responsible Partner	• Mr. Ashot Harutyunyan, Head of Department of Environmental Strategic Programs and Monitoring, Ministry of Nature Protection of RA • Mr. Aram Ter-Zakaryan, Project Task Leader • Ms. Shushanik Avagyan, Interpreter

14:00-16:00	Armenian Rescue Service	• Meeting with Project Counterpart	• Mr. Karen Hovhannisyan, Deputy Head, Department of Population and Territories Protection, Armenian Rescue Service, Ministry of Emergencies of RA • Mr. Aram Ter-Zakaryan, Project Task Leader • Ms. Shushanik Avagyan, Interpreter
16:00-18:00	"Forest Research Experimental Center" SNCO	• Meeting with project ex-subcontractor	• Andranik Ghulijanyan, Director, "FREC" SNCO, Ministry of Nature Protection of RA • Aram Ter-Zakaryan, Project Task Leader • Ms. Shushanik Avagyan, Interpreter
15 June 2011 – Yerevan			
09:30-11:00	UNDP CO	• Meeting at UNDP Environmental Governance Portfolio	• Mr. Armen Martirosyan, EG Portfolio Analyst • Mr. Aram Ter-Zakaryan, Project Task Leader
11:00-13:00	WWF Armenia	• Meeting with Project Partner	• Mr. Karen Manvelyan, Director, WWF Armenia • Mr. Armen Gevorgyan, National Coordinator, Transboundary Joint Secretariat (TJS) for the South Caucasus, Promoting Cooperation in Nature Conservation; REC Caucasus FCFPP Project Team Leader • Mr. Aram Ter-Zakaryan, Project Task Leader
13:00-15:00	Acopian Center for the Environment, American University of Armenia	• Meeting with project ex-subcontractor	• Mr. Karen Aghababyan, Director, Acopian Center for the Environment, American University of Armenia • Mr. Aram Ter-Zakaryan, Project Task Leader
16:00-18:00	Project office	• Meeting with the Project Management and Team	• Ms. Diana Harutyunyan, CC Related AWPs Coordinator • Mr. Aram Ter-Zakaryan, Project Task Leader • Ms. Rubina Stepanyan, CC Related AWPs Associate • Ms Tatevik Vahradyan, Expert Team Assistant • Ms Essi Ulander, UNV

Annex 4. Example Generic Good-Practice UNDP-GEF Table Format M&E Plan

Type of M&E activity	Responsible Parties	Budget US$ *Excluding project team Staff time*	Time frame
Inception Workshop & associated arrangements	▪ Project Manager ▪ UNDP CO ▪ UNDP GEF	Indicative cost $XXXX	Within first two months of project start up
Inception Report	▪ Project Team ▪ UNDP CO ▪ Consultancy support if needed	Indicative cost $XXXX (stakeholder consultations, consultancy and translation costs)	Immediately following inception workshop
Measurement of Means of Verification for Project Purpose Indicators	▪ Project Manager will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members, and ▪ Ensure hiring outside experts if deemed necessary	To be finalized in Inception Phase and Workshop. Indicative cost $XXXX	Start, mid and end of project
Measurement of Means of Verification for Project Progress and Performance (measured on an annual basis)	▪ Oversight by Project GEF Technical Advisor and Project Manager ▪ Measurements by regional field officers and local executing partners	To be determined as part of the Annual Work Plan preparation. Indicative cost $XXXX	Annually prior to APR/PIR and to the definition of annual work plans
APR/PIR	▪ Project team ▪ UNDP-CO ▪ UNDP-GEF	None	Annually
Steering Committee Meetings and relevant meeting proceedings (minutes)	▪ Project Manager ▪ UNDP CO	$XXXX (travel costs for relevant project stakeholders)	Following Project inception workshop and subsequently at least once a year
Quarterly status reports	▪ Project team	None	Quarterly
Issues Log	▪ Project team	None	Quarterly
Risks Log	▪ Project team	None	Quarterly
Lessons Log	▪ Project team	None	Quarterly
CDRs	▪ Project team	None	Quarterly
Technical reports	▪ Project team ▪ External consultants, as needed	$XXXX	As necessary
Project Publications (e.g. technical manuals, field guides)	▪ Project team ▪ Hired consultants as needed	$XXXX	To be determined by project team and UNDP-CO
Mid-term External Evaluation	▪ Project team ▪ UNDP- CO ▪ UNDP-GEF Regional Coordinating Unit ▪ External Consultants (i.e. evaluation team)	$XXXX	At the mid-point of project implementation.
Final External Evaluation	▪ Project team, ▪ UNDP-CO ▪ UNDP-GEF Regional Coordinating Unit	$XXXX	At the end of project implementation

	▪ External Consultants (i.e. evaluation team)		
Terminal Report	▪ Project team ▪ UNDP-CO ▪ External Consultant	$XXXX	At least one month before the end of the project
Lessons learned	▪ Project team ▪ UNDP-GEF Regional Coordinating Unit (suggested formats for documenting best practices, etc.)	$XXXX	Yearly
Audit	▪ UNDP-CO ▪ Project team	$XXXX (average $XXXX per year)	Yearly
Visits to field sites (UNDP staff travel costs to be charged to IA fees)	▪ UNDP Country Office ▪ UNDP-GEF Regional Coordinating Unit (as appropriate) ▪ Government representatives	$XXXX (average one visit per year)	Yearly
TOTAL INDICATIVE COST Excluding project team staff time and UNDP staff and travel expenses		US$ $XXXX	

Annex 5. Evaluation Documentation

Photo 6 Evaluator with Project Team and Kapan Forest Enterprise Staff at Kapan Pilot Site

Annex 6. Evaluator CV

Please see following pages.

Joshua E. Brann

131 Camelia Lane
Walnut Creek, CA, 94595, USA
(c) + 202-276-0241
Brann.Evaluation@gmail.com
Skype: wchinook

Nationality: American
Civil Status: Married
Children: None
Birthplace: Alaska, USA

Professional Experience

Independent Consultant
Conservation and Evaluation Specialist; *Mill Valley, CA December 2006 – Present*

- Ten years experience in environmental conservation and natural resource management issues, monitoring and evaluation, and strategy consulting
- Experience leading teams in evaluation of multi-million dollar donor-funded environmental projects and programs; also effective working as an individual, or as a supporting team member
- Expertise in monitoring and evaluation design and execution, including baseline development, indicator development, qualitative and quantitative analysis, impact evaluation, theory-based evaluation, logical frameworks and logic chains, results-based management, design of monitoring tools, and electronic surveys
- Extensive field work in Asia-Pacific and Eastern Europe regions; additional work in Central Asia and Africa
- Experience in integrated environmental issues, such as deforestation, peatland management and watersheds
- Excellent interpersonal, communications and organizational skills; years of experience working in diverse cultural environments, and in developing country contexts from local to ministerial levels
- In-depth knowledge of multi-lateral institutions' monitoring and evaluation policies and procedures, including the Global Environment Facility, United Nations, and World Bank

Keystone Strategy, LLC / North Harvard Group, LLC
Analyst; *South San Francisco, CA, July 2006 – September 2008*

- Business Strategy Consulting

  Conducted market opportunity modeling and strategic analysis for Fortune 100 technology firms

- Litigation Support

  Performed quantitative analyses of technology markets to support clients in intellectual property litigation

  Contributed written qualitative analyses to leverage expertise of Harvard Business School professors serving as expert witnesses

Global Environment Facility
Monitoring & Evaluation Analyst, Evaluation Office*; Washington, DC, May 2004 – May 2006*

- Monitoring and evaluation of the GEF portfolio, covering the main GEF focal areas: conservation of biodiversity, climate change, international waters, land degradation, and chemicals
- Evaluation team member on major GEF programmatic evaluations:

  Pilot Phase of GEF Impact Evaluation (2006): Developed conceptual model for analyzing project-level biodiversity impacts with global-level biodiversity status; Developed evaluation concept paper and terms of reference; Recruited external consultants for evaluation support

  Joint Evaluation of the GEF Activity Cycle and Modalities (2006): Primary responsibility for organization of field visits, external stakeholder survey, and desk review of previous evaluation evidence; Organized and carried out field visit to Macedonia and Turkey; Contributed to evaluation management including budget planning for multiple evaluation components

Evaluation of the GEF Support for Biosafety (2005): Organized and carried out stakeholder consultation field visits in Tajikistan, Croatia, India and China; Contributed to evaluation planning and management; Managed publication of evaluation report

Third Overall Performance Study of the GEF (2005): Organized regional stakeholder consultation workshops in Bangkok, Cairo and Pretoria; Provided support to external firm carrying out evaluation

Biodiversity Program Study 2004: Conducted statistical analysis of GEF biodiversity portfolio; Reviewed and analyzed over one hundred project terminal evaluations and progress implementation reports

- Analysis, input and support for additional GEF Evaluation Office evaluations:

  GEF Annual Performance Report 2004, 2005 and 2006: Carried out Terminal Evaluation Reviews of million dollar GEF biodiversity projects; Provided statistical portfolio analysis

  Review of the GEF Project Cycle: Conducted statistical analysis of GEF project cycle timeframes

  Evaluation of Operational Program 12 – Integrated Ecosystem Management: Provided management support and analysis to external evaluation team

- Portfolio monitoring, strategic priority tracking, and biodiversity indicators

  Contributed to development of biodiversity portfolio strategic priority tracking tools, with emphasis on sustainable use of biodiversity; Updated and maintained indicators and protected areas databases

Global Environment Facility
***Consultant, Biodiversity Team/Monitoring & Evaluation Unit**; Washington, DC, October 2002 – May 2004*

- Produced and contributed to several GEF biodiversity public relations publications:

  Forests Matter: Wrote and produced GEF publication on forest ecosystems component of the GEF biodiversity portfolio

  Making a Visible Difference in Our World – The GEF and Protected Areas: Researched and analyzed the protected areas component of the GEF portfolio; Developed text for publication

  GEF and the Convention on Biological Diversity: A Strong Partnership with Solid Results: Provided research and text for publication distributed at the Conference of Parties of the CBD

- Represented the GEF at major international conservation forums, including:

  World Parks Congress (2003); Seventh Conference of Parties of the Convention on Biological Diversity (2004); World Conservation Congress (2004); World Wilderness Congress (2005)

- Supported GEF biodiversity portfolio internal data management systems; Updated and managed GEF biodiversity protected areas database; Researched GEF biodiversity portfolio

World Wildlife Fund – US
***Research Assistant, Asia-Pacific Program;** Washington, DC, September 2000 – June 2001*

- Edited grant proposals for landscape conservation projects requesting funds from US Government agencies, foundations, and international organizations
- Developed reports and educational brochures

Alaska Rainforest Campaign
***Consultant;** Washington, DC, June 2000 – August 2000*

- Advocated for increased federal protection for Alaskan forests

National Wildlife Federation
***Conservation Intern;** Washington, DC, January 2000 – June 2000*

- Advocated for enactment of federal conservation funding legislation

Education

M.A., International Relations, Johns Hopkins University School of Advanced International Studies
Bologna, Italy & Washington, DC, August 2001 – May 2003

- Concentrations: Energy, Environment, Science & Technology (EEST) and International Economics
- Language Proficiency: French
- Independent Study: "*Examining Human-Wildlife Conflicts and Protected Areas: Social, Political, Economic, and Ecological Factors*"

B.A., Environmental Studies, Dartmouth College
Hanover, NH, September 1995 – June 1999

- Major: Environmental Studies; Minor: French
- Rufus Choate Scholar for Academic Achievement; Citations for Academic Achievement in three courses
- Foreign study: Zimbabwe and South Africa (Environmental Studies); France (French)

Certificate, French Language Studies, University of Nice Sophia-Antipolis
Nice, France, July 2001

Microeconomics and French coursework, United States Department of Agriculture Graduate School
Washington, DC, September 2000 – December 2000

High School Diploma - Salutatorian, Homer High School
Homer, AK, September 1991 – May 1995

Skills and Activities

Professional Associations
International Development Evaluation Association (IDEAS)
American Evaluation Association

Language Skills
French: Speaking (Fair), Writing (Fair), Reading (Good)
Spanish: Speaking (Basic), Writing (Basic), Reading (Good)

Computer Skills
Microsoft Office applications, Adobe Photoshop, HTML

International Experience
Field Work: Extensive experience in Asia-Pacific region, additional experience in Eastern Europe, Central Asia, and Africa
Travel: Field work and/or tourism in 42 countries, including all major developing regions

Activities and Interests
Professional: Former founding co-chair of International Young Professionals in Conservation initiative
Recreational: Hiking; camping; fishing; running; cross-country skiing; alpine skiing

Publications

Evaluation

2007. "Joint Evaluation of the GEF Activity Cycle and Modalities," Washington, D.C.: GEF Evaluation Office.

2006. "Evaluation of GEF Support for Capacity Building for the Cartagena Protocol on Biosafety," Washington, D.C.: GEF Evaluation Office.

2004. "Biodiversity Program Study 2004," Washington, D.C.: GEF Monitoring and Evaluation Unit.

Professional

Brann, J. and Matambo, S. T. "Securing the Future of Protected Areas: A commitment to younger generations," in Secretariat of the Convention on Biological Diversity (2004). Biodiversity issues for consideration in the planning, establishment and management of protected area sites and networks. Montreal, SCBD, 164 pages and i to iv. (CBD Technical Series no. 15).

Brann, J., Kugler, L., and Matambo, S. T. "Youth and Young Professional Involvement," in Mulongoy, K.J., Chape, S.P. (Eds) 2004. Protected Areas and Biodiversity: An overview of key issues. CBD Secretariat, Montreal, Canada and UNEP-WCMC, Cambridge, UK.

Brann, J. "Trade Policy in Indonesia: Implications for Deforestation," *The Bologna Center Journal of International Affairs,* (Bologna: The Bologna Center of The Johns Hopkins University Paul H. Nitze School of Advanced International Studies) Vol. 5, Spring 2002, pp. 77-94.

Public Relations

2004. "Forest Matters: GEF's Contribution to Conserving and Sustaining Forest Ecosystems," Washington, D.C.: GEF Secretariat.

2004. "GEF and the Convention on Biological Diversity: A Strong Partnership with Solid Results," Washington, D.C.: GEF Secretariat.

2003. "Making a Visible Difference in Our World," Washington, D.C.: GEF Secretariat.

Presentations

International Development Evaluation Association (IDEAS); Impact Evaluation Workshop; Presentation title: "National and Global Biodiversity Indicators," April 4, 2008, Kuala Lumpur, Malaysia.

8th World Wilderness Congress; Closing plenary presentation: "Wilderness and Young Professionals," October 6, 2005, Anchorage, Alaska, USA.

PIMS 3814: Adaptation to Climate Change Impacts in Mountain Forest Ecosystems of Armenia

UNDP Management Response Template

Mid-term Evaluation Date: June 2011

Prepared by: Aram Ter-Zakaryan	Position: Project Task Leader	Unit/Bureau: UNDP Armenia
Cleared by: Simon Papyan	Position: First Deputy Minister	Unit/Bureau: Ministry of Nature Protection of RA
Input into and update in ERC: Dirk Boberg	Position: DRR	Unit/Bureau: UNDP Armenia

<table>
<tr><td colspan="5">Evaluation Recommendation or Issue 1.</td></tr>
<tr><td colspan="5">The project team has identified the necessary legal strategy for formal incorporation of forest management recommendations related to climate change adaptation, and there are no specific risks foreseen for this activity. However, given the importance of this activity and the fact that official government processes often take longer than expected, the project team should pay particular attention to this activity to ensure completion of this critical activity by the end of the project</td></tr>
<tr><td colspan="5">Management Response:</td></tr>
<tr><td rowspan="2">Key Action(s)</td><td rowspan="2">Time Frame</td><td rowspan="2">Responsible Unit(s)</td><td colspan="2">Tracking*</td></tr>
<tr><td>Comments</td><td>Status</td></tr>
<tr><td>This recommendation is considered as useful and appropriate under the current implementation progress of the project. The project has concluded in the past several consultations with several stakeholders and partners (Ministry of Agriculture, Hayantar, FREC, REC, WWF) to proceed smoothly with mainstreaming adaptation recommendations in forest management plans taking into consideration the ongoing parallel and similar processes.</td><td>2012-2013</td><td>Project Team</td><td>Recommendations to mainstream CC adaptation in forest management plans are drafted and accepted by forest management authorities.</td><td>Work in process</td></tr>
<tr><td colspan="5">Evaluation Recommendation or Issue 2.</td></tr>
<tr><td colspan="5">This evaluation recommends that, to clarify the potential use of “scenario planning” as an input to the revision and development of forest management plans, the project team should investigate and discuss the tool of “scenario planning” for climate change in forest management (potentially with the input of international expertise), and share information about this tool with FREC for inclusion, as appropriate, in Forest</td></tr>
</table>

Enterprise management plans. It would also be appropriate for the project to focus on assisting data users in developing need-based data requests to be addressed at the national level. Along similar lines, the scope of the activity on the establishment of an "an early warning and response system" should be clarified.				
Management Response:				
Key Action(s)	**Time Frame**	**Responsible Unit(s)**	**Tracking***	
			Comments	**Status**
This recommendation is considered as useful and appropriate under the current implementation progress of the project. The project will seek for additional clarification of "scenario planning" and "early warning and response system" as well as limitation for feasible implementation through consultations with the project's International Technical Adviser and national experts.	2011-2012	Project Team, Project Partners	The "scenario planning" and "an early warning and response system" are discussed with the Hydrometeorological Service and forest specialists, the corresponding recommendations will be elaborated with the assistance of International Consultant	Work in process
Evaluation Recommendation or Issue 3.				
This evaluation recommends a 6-12 month no-cost extension to facilitate the originally planned 48-month implementation period. The officially expected completion date has as yet not been changed from November 2012, although the project did not begin implementation until six months later than expected, in May 2009 rather than November 2008. The current rate of budget disbursement should allow such an extension.				
Management Response:				
Key Action(s)	**Time Frame**	**Responsible Unit(s)**	**Tracking***	
			Comments	**Status**
This recommendation is considered as useful and appropriate under the current implementation progress of the project. The extension need is included in the 2010 PIR and the proper justification will be submitted to the Outcome Board for discussion and approval	2011	UNDP CO, Project Team, Executing Partner	The corresponding justification will be presented to the Outcome Board and the Project Multi-year Work Plan 2012-1013 will be reviewed	Pending
Evaluation Recommendation or Issue 4.				
Project quarterly operational reports should be organized under the project outcomes and key outputs for increased clarity and understanding				

of the report contents.				
Management Response:				
Key Action(s)	**Time Frame**	**Responsible Unit(s)**	**Tracking***	
			Comments	**Status**
The project progress reports have being developed under the administrative management frameworks since some of the activities were covering different outputs under different outcomes. The project quarterly operational reports will be further prepared to reflect the specific framework of the project outcomes/outputs.	2011	Project Team, UNDP CO	According to the UNDP CO guidelines starting from the Second quarter of 2011 the quarterly progress reports are provided to the EG portfolio for entering in the ATLAS system	Complied
Evaluation Recommendation or Issue 5.				
The project partners should begin budgeting now for depreciation of the firefighting equipment, each component of which has an expected useful life. If there is no financial mechanism to replace the equipment at the end of its useful life this aspect of the project will have low sustainability, as once the equipment is fully depreciated (some of the equipment has an expected five year life) the benefits gained through its procurement (in the form of fire suppression) will also be lost.				
Management Response:				
Key Action(s)	**Time Frame**	**Responsible Unit(s)**	**Tracking***	
			Comments	**Status**
This recommendation is considered as useful and appropriate. The project will conduct consultation with “Hayantar” SNCO on further replacement of the depreciated equipment. Prior consultations discovered that upon successful and feasible results of testing and using of firefighting equipment and tools “Hayantar” SNCO will seek opportunities for procurement of similar equipment/tools either under the state budget allocation or other funding sources. Armenian Rescue Service has also planned to procure some of the introduced equipment and tools for local rescue/fire detachments.	2012	Project Team Project Partners	The recommendations will be elaborated and officially submitted to the forest authorities	Pending
Evaluation Recommendation or Issue 6.				
The project should identify a way to take advantage of the training on forest management for climate change adaptation that has been suggested by the Director of FREC. Target beneficiaries could be foresters from Hayantar who will be responsible for implementing the forest				

management plans, as well as others at the policy level who will be involved in overseeing the development and updating of forest management plans in the future.				
Management Response:				
Key Action(s)	**Time Frame**	**Responsible Unit(s)**	**Tracking***	
			Comments	**Status**
This recommendation is considered as useful. It will be discussed with forest management authorities at national and local levels during the planned consultations based on detailed proposals on mainstreaming climate change risks into forest management plans elaborated under the project.	2011-2012	Project Team Project Partners	The training modules for consideration of the climate change factor in forest management developed and training organized. Corresponding report developed , submitted to UNDP and posted on the project web-page	Pending
Evaluation Recommendation or Issue 7.				
There have been a number of activities targeted towards raising community-level awareness and understanding related to climate change and forest adaptation issues. This evaluation recommends that the project seek innovative ways to continue and expand these efforts, for example through the replication of the involvement of schoolchildren in the Meghri demonstration site.				
Management Response:				
Key Action(s)	**Time Frame**	**Responsible Unit(s)**	**Tracking***	
			Comments	**Status**
This recommendation is considered as useful and appropriate. The project has planned to involve schoolchildren in planting and watering activities during the implementation of fourth forest rehabilitation pilot project planned to contribute into protection of forest biodiversity (wild fruit tree species) around Tatev Monastery in Syunik region. The project will also discuss with Hayantar to apply this opportunity in Goris and Kapan sites. Besides the project has conducted 12 public awareness raising event solely targeted on Syunik schoolchildren. The subjects covered climate change issues, forest biodiversity protection, pest infestation and forest fires. Moreover, schoolchildren	2011-2012	Project Team Project Partners	Number of students/schoolchildren participated in the reforestation works; number of similar events	Work in progress

were assigned to prepare essays on the seminar subjects; the best essays were awarded.				
Evaluation Recommendation or Issue 8.				
The project has overall done an excellent job of leveraging synergies with relevant stakeholders and related initiatives. This evaluation recommends that the project team also seek synergies with the UNDP-GEF Small Grants Programme to support community-based climate resilience initiatives in Syunik region.				
Management Response:				
Key Action(s)	**Time Frame**	**Responsible Unit(s)**	**Tracking***	
			Comments	**Status**
This recommendation is considered as useful. In the past the project kept informing community based organizations in Syunik region on UNDP-GEF Small Grant Programme opportunities and assisted in communication between the local organizations and SGP. The project will conclude additional consultations with UNDP-GEF SGP team in Armenia targeted to support community-based climate resilience and afforestation/reforestation initiatives in Syunik region. Besides, consultations are provided to UNDP DRR project, which is currently planning implementation of the CC risk reduction projects in Syunik marz.	2012	UNDP Country Office Project Team	Number of pilot projects in Syunik region enhancing community resilience to CC	Work in progress
Evaluation Recommendation or Issue 9.				
To support wider dissemination of the pest early warning monitoring information, this evaluation recommends the training be conducted using a “train the trainer” approach, or that the training be open to all interested forestry sector professionals, depending on the available resources.				
Management Response:				
Key Action(s)	**Time Frame**	**Responsible Unit(s)**	**Tracking***	
			Comments	**Status**
This recommendation is considered as useful and appropriate. The training of trainers on pesthole monitoring based on the monitoring approach developed under the project will be conducted in Spring 2011.	2011-2012	Project Team Project Partners	Trainings conducted	Pending