1. COVER PAGE

MID-TERM EVALUATION REPORT

FOR

UNDP/AF PROJECT "DEVELOPING CLIMATE RESILIENT FLOOD AND FLASH FLOOD MANAGEMENT PRACTICES TO PROTECT VULNERABLE COMMUNITIES OF GEORGIA" PROJECT

Outline of Project Details" **Table 1:**

<table>
<tr><td>Project Title:</td><td colspan="4">"Developing Climate Resilient Flood and Flash Flood Management Practices to Protect Vulnerable Communities of Georgia"</td></tr>
<tr><td>UNDP Project ID:</td><td>00076540</td><td>Project financing</td><td>at endorsement (Million US$)</td><td>at MTE (Million US$)</td></tr>
<tr><td>ATLAS Project ID:</td><td>00060698</td><td>AF financing:</td><td>US$ 4,900,000</td><td></td></tr>
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July 2016</td><td>Revised closing date:</td></tr>
</table>

Undertaken by: Edward Russell (International Consultant) and Kate Skhireli

Timeframe: From 07 November to 20 December 2014

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Final Report: 20 December 2014

With thanks to the UNDP Georgian Country Office for the support, guidance and information provided; and providing invaluable information and insight; the Project Management Unit for making all the arrangements; the officials at the municipalities of Ambrolauri, Oni, Lentekhi, Tsageri, Tskaltubo and Samtredi who were so welcoming, open to discussion and obliging to meet us on a Sunday; the obliging and informative officials at the Ministry of Environment; the Emergency Management Department; the Ministry of Regional Development and Infrastructure; the National Environment Agency (NEA); USAID staff; and the CEO and Programme Coordinator at ELKANA (NGO). Without your combined kind help, the evaluators would not have gained the insight to enable an informative report that will hopefully guide and assist the project to achieve its objective.

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3. Table (3) ACRONYMS & ABBREVIATIONS

AF	Adaptation Fund
CENN	Caucuses Environmental NGO Network
DPPD	Disaster Prevention and Planning Department of the Ministry of Internal Affairs
GEF	Global Environment Facility
INRM	Integrated Natural Resources Management
MIA	Ministry of Internal Affairs
MoENRP	Ministry of Environment and Natural Resources Protection of Georgia
MRDI	Ministry of Regional Development and Infrastructure of Georgia.
MTE	Mid-Term Evaluation.
NEA	National Environment Agency (of Georgia)
RRB	Rioni River Basin
RTA	Regional Technical Adviser.
UNDP	United Nations Development Programme.
USAID	United States Agency for International Development
WB	World Bank

4. EXECUTIVE SUMMARY

4.1 Project Summary Table, Table (4):

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4.2 Project Description:

Despite the fact that Georgia is highly-prone to natural disasters, as an independent state, it has a short history of the disaster risk management. After the collapse of the Soviet Union the country experienced a lack of financial, administrative, human and political capacity to exercise effective patterns for disaster risk reduction. This, situation obtained despite the fact that Climate Change impacts were increasing the dangers of natural disasters.

The project **objective** is to improve resilience of highly exposed regions of Georgia to hydro-meteorological threats that are increasing in frequency and intensity as a result of climate change. The project will help the government and the population of the target region of Rioni Basin to develop adaptive capacity and embark on climate resilient economic development. The project is comprised of three main components: Floodplain development policy introduced to incentivize long term resilience to

flood/flash flood risks; climate resilient practices of flood management developed and implemented to reduce vulnerability of highly exposed communities; and early warning system in place to improve preparedness and adaptive capacity of population.
The project target working areas include the municipalities of; Ambrolauri, Oni, Lentekhi, Tsageri, Tskaltubo and Samtredi and, while considerable focus is placed upon the capacity and resources required to build key national institutions like the National Environment Agency (NEA), the project also has a practical implementation component and addresses the direct interests of local communities 'on-the-ground' through their active participation and employment in the community-based adaptation measures, such as bank terracing, vegetative buffers, through a municipal employment guarantee scheme.

4.3 Progress towards Outputs, Outcomes and Objective:

The overall rating of project progress towards project outcomes is satisfactory (S). On a general level, the technical work of the project has been very good. The Project Team have a high level of professional technical ability and though early to judge at this stage when several key project elements have not really begun, general progress towards the project objective is satisfactory. Progress towards Outcome 1 "Floodplain development policies in place to minimise exposure of highly vulnerable people of Rioni river basin to climate change induced flood risks" is, as measured against Outcome Indicator 1.1 "Floodplain development policies in place, which minimise Climate change vulnerability implemented by close of the project" satisfactory. Progress against 4 of the 5 constituent outputs of Outcome 1 is satisfactory, while Output Indicator 1.1.1 "Studies conducted to develop to model and map the hydrometeorological hazards of the whole Rioni basin" has already been met and is thus highly satisfactory. Training and capacity building elements will require a considerable focus over the coming 18 months of the project as it will form one of the bases for sustainability of the project interventions. Generally, progress towards all 3 outcome indicators has been satisfactory though progress against Outcome Indicator 2.1 "Number of community based adaptation solutions implemented at the local level upon project closure" has been rated as moderately successful (MS). It is far too early to properly judge progress towards this outcome indicator but the MTE Team feel that the progress has been modest to date (partly because of disruptions associated with changes of decision-makers at municipality level) and that the project's major challenges will lie in getting implementation on the ground. Progress towards meeting Outcome Indicator 3.3 "Number of associations with improved institutional capacity to deliver water services to target communities" has also been rated as moderately satisfactory (MS). The capacity of the NEA has been significantly improved through the project interventions, but further capacity building is requested and efforts to include the municipalities should be expanded. The project management recognises the requirement for longer-term training such as university training courses for the appropriate people who will take the practice forward and a more strategic approach to capacity building and skills retention (e.g. through development of courses at universities and the implementation of internships/partnerships with universities once base capacity has been built). The training of municipalities is scheduled for 2015 and 2016 once other elements like the emergency response plans, development control rules and intervention measures are in place. However, the municipalities engaged with are not au fait with the planned process and seemed uncertain about how matters would evolve. This might largely relate to the turnover of personnel in the municipalities and is not a criticism of the project team. It simply reflects an unfortunate reality on the

ground. Progress towards 4 of the 20 output indicators, Output Indicators 1.1.1, 3.1.1, 3.4.1 and 3.4.2 has been Highly Satisfactory (in many instances completed), and progress towards a further 9 output indicators, Output Indicators 1.2.1, 1.3.1, 1.4.1, 1.5.1, 2.2.1, 2.3.1, 3.2.1, 3.3.1 and 3.5.2 has been satisfactory. Progress on one outcome indicator Outcome Indicator 3.4 "% of targeted population with more access to early warning in the face of climate change" was not rated as this is a high level target and will only be amenable to assessment later in the project. Similarly, progress towards output indicators 3.5.3, 3.5.4 and 3.5.5 were not rated because activities towards realising these outputs are only scheduled for 2015 and 2016. Progress towards the 5 of the output indicators has been moderately satisfactory (MS). Output Indicator 2.1.1 "Feasibility outline and detailed design studies undertaken to ensure the best climate resilient intervention measures are adopted which will include bioengineering solutions as well as traditional hard engineering options" and 2.1.2 (the separated indicator) "15 schemes implemented in the 6 municipalities" were rated as moderately satisfactory (MS) as a reflection of the challenges in getting on-the-ground implementation. This is, again, not a reflection on the effort or abilities of the project proponents, but simply because of the realities facing them over which they have limited control. Progress against Output 2.4 "Lessons learned and best practices documented and disseminated to raise awareness of effective climate risk management options for further up-scaling" has been rated as moderately satisfactory (MS). The output indicator in the Project Document logframe is inappropriate and clearly needs to be moved to Output 2.2. The MTE Team feels that it is too early to distil lessons learnt from the project field experience, the MTE Team are concerned that a clear mechanism for systematically and regularly collecting data and analysing it to create information is not fully understood by some of the key role players. The technical guidance documents that have been written for all aspects of the technical work undertaken on the project so far are of good quality and do contribute in an important way to 'best practice' and replication opportunities in other river basins. The Adaptation Tracking Tool will certainly also provide information that will assist this element, but is not sufficiently fine grained to allow deeper insights that might be derived from the project implementation process.

Progress towards Output Indicator 3.5.1 "A fully integrated flood early warning system (Deltares-FEWS) which links forecasting models to telemetered data as input and forecasting reporting and warning systems as output" has also been rated as moderately successful (MS). This is probably a slightly harsh assessment, but progress here is partially dependent on Output 3.2. This is an element that, while not far behind the programmed work plan, poses a potential time challenge. It is complex and involves several actors and could easily fall behind schedule. It is obviously crucial and is an element that the Project Team and Board should monitor closely as it might require a project duration extension. The good progress made against the other related outputs, 3.1 (completed) and 3.4 are encouraging and this is more of a precautionary than a negative comment.

The Evaluation Rating Table (6) does not include comment on the project management. This element appears to be well covered at present. A change in the Project Administrator/Finance Assistant was noted and this might now improve the advance work planning. All other elements of project management appear to be well addressed.

4.4 Summary of conclusions, recommendations and lessons & budget matters:

This is an important project that is well-based upon Georgian national priorities. It is clearly in line with both national and global (AF) priorities and is thus very relevant. The project design is generally good and the project is accepted and endorsed by the key partners who recognise its importance. The combination of technical work, new technologies and instruments, with practical 'on-the-ground' implementation is greatly appreciated by all the partner agencies, government ministries, provincial authorities and NGOs. The project implementation has generally been good, though earlier delays and the changes in the project Administrator/Financial Assistant resulted in delays. The technical support provided to the project, the Project Manager and the Project Administrator, by the RTA, the Project Technical Advisor and the UNDP Country Office in Georgia appears very positive and of high quality. The Project Manager and the Project Administrator appear very competent and their work is highly appreciated by the partner agencies, the municipalities, government ministries, etc. Additional guidance to the PM and key partners on processes to identify and consolidate lessons learnt and to track progress against the outputs, outcomes and objective would add additional value.

In a general sense this project is on track with progress towards achieving the project objective and outcomes. The project has 3 substantive outcomes (plus a management outcome) with 8 outcome indicators and 14 outputs with 14 output indicators in the Project Document, with an additional output indicator suggested by the MTE Team. Progress towards Outcome 1 "Floodplain development policies in place to minimise exposure of highly vulnerable people of Rioni River Basin to climate change induced flood risks" is generally good. Progress against 4 of the 5 output indicators for Outcome 1 is rated as satisfactory and progress against Output Indicator 1.1.1 "Studies conducted to develop to model and map the hydrometeorological hazards of the whole Rioni basin" has been highly satisfactory as the target has been achieved. However, progress against Outcome 2 "Direct investments and local actions in highly exposed and vulnerable communities improve flood management practice on 8,400km^2 and build resilience of 200,000 people" has been more challenging. Although it is early to judge progress against Outcome Indicator 2.1 "Number of community based adaptation solutions implemented at the local level upon project closure", this has been rated as moderately satisfactory as the MTE Team feel that the progress has been modest to date. This has partly been caused by disruptions associated with changes of decision-makers at municipality level. The project's major challenges will lie in getting implementation on the ground. To address this challenge it is recommended that the project should concentrate on identifying and promoting a local, powerful 'champion' of high stature to lend support to the processes at municipal level. Progress towards Output Indicators 2.1.1 "Feasibility outline and detailed design studies undertaken to ensure the best climate resilient intervention measures are adopted which will include bioengineering solutions as well as traditional hard engineering options" and 2.1.2 "15 schemes implemented in the 6 municipalities" has also been rated as moderately satisfactory. Work on this component has only recently commenced and stands at about 35%, but the PMU is confident that this target will be met by project close. The engineering design was delayed by having to wait for the completion of the geological studies, the completion of the hydraulic modelling, delays in the recruitment of the Lead HS engineer. However, lead HS engineers have already identified and recommended bio-engineering measures for some of the remaining sites. The MTE team feels that the bioengineering and traditional engineering interventions might take longer than anticipated and counsel that this element be closely monitored over the remainder of the project. This remains an important component of the project and time pressure should not compromise the realisation of this element. The Project Manager has noted that he is confident that 12 schemes will be in place. Progress towards

Output 2.4 **"**Lessons learned and best practices documented and disseminated to raise awareness of effective climate risk management options for further up-scaling" has also been rated as moderately satisfactory. The MTE Team are concerned that a clear mechanism for systematically and regularly collecting data and analysing it to create information is not fully understood by some of the key role players. The technical guidance documents that have been written for all aspects of the technical work undertaken on the project so far are of good quality and do contribute in an important way to 'best practice' and replication opportunities in other river basins. The Adaptation Tracking Tool will certainly also provide information that will assist this element, but is not sufficiently 'fine grained' to allow deeper insights that might be derived from the project implementation process. The MTE Team recommends that a short workshop be scheduled with the full project management team and other key role players to clarify the capture of elements that will be included in the learning process report. Progress towards the output indicators 2.2.1 "Municipal employment-guarantee scheme employing local people in the implementation of the adaptation schemes being implemented and long-term involvement of local population in the maintenance of flood protection infrastructure" and 2.3.1 "Agro-forestry, cattle rearing plots and seasonal cropping measures adopted in all 6 municipalities established" has been satisfactory and is on track. Most of the work towards these outputs is scheduled for 2015 and 2016. The work undertaken in partnership with ELKANA (a Georgian NGO), on the agroforestry has progressed well. To date the fencing of areas has been completed. A new contract will be concluded between the project and ELKANA during December. This will cover the planting and maintenance of trees. It will start in early spring and be followed-up with replacement planting in autumn. The other elements will require considerable effort soon. The MTE Team is confident that ELKANA will complete their tasks relating to the agroforestry, but establishing the annual cropping regime for seasonal crops and for livestock rearing will pose challenges and will, in the reckoning of the MTE Team, take considerable time. Outcome 3 "Institutional Capacity developed for early warning and timely alert communication to vulnerable communities of the Rioni River Basin" has 5 indicators. Progress towards Outcome Indicator 3.4 "% of targeted population with more access to early warning in the face of climate change" has not been rated as this is a high level impact indicator and it is too early to judge progress against this indicator. Progress towards Outcome Indicator 3.3 "Number of associations with improved institutional capacity to deliver water services to target communities" is seen as moderately satisfactory. NEA has been the primary beneficiary of the capacity building, but further capacity building is requested and efforts to include the municipalities should be expanded. The project recognises the requirement for longer-term training such as university training courses for the appropriate people who will take the practice forward and a more strategic approach to capacity building and skills retention (e.g. through development of courses at universities and the implementation of internships/partnerships with universities once base capacity has been built). Training of municipalities is scheduled for 2015 and 2016 once other elements like the emergency response plans, development control rules and intervention measures are in place. However, the municipalities (largely because of the turnover of personnel) are not *au fait* with the planned process and seemed uncertain about how matters would evolve. For this reason a (MS) rating is assigned. It is not a criticism of the design or of the project implementation, but is simply the result of changes in an element that is beyond the control of the project. Progress towards outcome indicators 3.1 "Flood forecasting and early warning systems introduced to benefit over 200,000 people at risk in the Rioni basin from flood, flash flood and landslide risk in the basin", 3.2 "Establishment/rehabilitation of monitoring stations to increase spatial coverage" and 3.5 "Number of national and local staff with flood forecasting, early warning and flood risk

assessment capabilities" is seen as satisfactory. Outcome Indicator 3.5 is on track to be completed early in 2015. In addition, Output Indicator 3.1.1 "Database of historical observation data for Rioni digitised" has been achieved and is thus rated as highly successful (HS). Progress towards Output Indicator 3.2.1 "Rioni flood forecasting model developed, which will couple outputs from downscaled meso-scale meteorological systems to HEC-HMS hydrological models and linked forecasting met-hydrological-hydraulic model" has been satisfactory. The multi-hazard risk assessment for the Rioni Basin has been partly completed (about 25%). Work is on-going on the early warning and flood forecasting modelling. Conversion of the hydraulic model developed in 1.1 to a FFEWS model, and that of the input hydrological model as well as the Delft-FEWS system which will be the FFEWS interface and which is currently under way for conclusion by the end of January 2015, is encouraging and is the main reason for the satisfactory rating. In addition, institutional arrangements for the implementation of the FFEWS are currently being undertaken and will continue in January. This will include consultation on a proposed new institutional arrangement, and work towards adoption of the same. It is noted that most of the training around this element will occur in 2015 and 2016. Progress against Output Indicator 3.3.1 "At least 10 NEA staff trained in risk assessment and forecasting and EWS. Municipality emergency staff trained in emergency response. Strengthened capacity of national and local staff in monitoring, flood forecasting, early warning and emergency response", which really is a bit too much of a composite indicator, and Output Indicator 3.4.1 "Purchase and install 5 Met stations, 20 Met posts, and 10 Hydrological posts" and the suggested separated Output Indicator 3.4.2 "Observation network of all hydrological and meteorological variables to provide an appropriate level of spatial resolution of these variables for early warning" have been rated as satisfactory and highly satisfactory respectively. These latter two elements are very well advanced and nearly completed. They should be completed early in 2015 and are greatly appreciated by government ministry partners and the NEA.

Progress towards Output Indicator 3.5.1 "A fully integrated flood early warning system (Deltares-FEWS) which links forecasting models to telemetered data as input and forecasting reporting and warning systems as output" has been rated as moderately satisfactory (MS). Progress towards this output indicator is partially dependent on Output 3.2 and has been delayed. This is an element that, while not far behind the programmed work plan, poses a potential time challenge. It is complex and involves several actors and could easily fall behind schedule. It is obviously crucial and is an element that the Project Team and Board should monitor closely as it might require a project duration extension. The good progress made against the other related outputs, 3.1 (completed) and 3.4 are encouraging and this is more of a precautionary than a negative comment. Progress towards Indicator 3.5.2 "An early warning communication network using different communication links such as telephone trees, SMS and e-mail networks is, according to the work plan, scheduled for 2015. However, some work has already started. The project telecommunications expert (within NEA) is working with the international FFEWS expert to identify requirements. The technologies that will be employed in the early warning system have been identified. All equipment has been purchased and is being installed. At municipality level there is little appreciation of how to operationalise these communications networks in a systematic way, but progress is still seen as satisfactory (S).

No performance ratings have been provided for output indicators 3.5.3, 3.5.4 and 3.5.5 as work on these is only scheduled for 2015.

Several of the informants consulted were far from clear about the mechanism for collecting specific evidence required to track progress against the project objective: "To improve resilience of highly exposed regions of Georgia to hydro-meteorological threats that are increasing in frequency and intensity as a result of climate change" and output indicators: 2.2 "% of population with improved water management practices resilient to climate change impacts in the targeted regions"; 3.1 "Flood forecasting and early warning systems introduced to benefit over 200,000 people at risk in the Rioni basin from flood, flash flood and landslide risk in the basin"; and"% of targeted population with more access to early warning in the face of climate change". For the higher level indicator, the MTE suggest that the project look at the ICF indicators. These could inform and concretise the indicators and provide some guidance as to collecting the verification data.

The project is currently experiencing difficulty in concluding contracts with national builders to undertake the engineering works required to provide protection against flooding. This is posing a threat to the timely delivering of this vital protection. The national builders struggle to meet several of the requirements associated with UNDP procurement procedures. They have capacity constraints relating to some of the technical work itself, the English language medium, the provision of bank guarantees, Health and Safety Insurance and other elements. The MTE Team recommends that the procurement process be carefully planned in advance with the UNDP CO Team and that the possibility of pairing Georgian builders with companies from neighbouring countries in the region that have experience of implementing similar projects be explored. The identification of appropriate translators could also assist national builders. Special workshops on elements required under UNDP procurement processes could also be scheduled and specifically targeted national builders could be approached to participate. The concern about national builders and specialists having a chance to undertake the project work was also raised at municipal level (Ambrolauri).

While the project has been well designed, some of the targets are both very important and very ambitious and it will be challenge to complete these by the scheduled end of the project. These particularly relate the implementation of the enhanced land-use regulations and building codes for improved resilience. Designing the elements of these is a challenge, but certainly achievable. Getting these through all the necessary regulatory processes and actually implemented within the currently scheduled project duration is likely to prove a major challenge. The MTE Team recommends a revision of the output indicator wording for these and the setting of more realistic targets (as outlined in Table 5 on page 23). In addition, the concentration of efforts on these elements should be prioritised and the need to apply for a 'no-cost' project extension of one year should be borne in mind. Any extension should not be viewed as an opportunity to slow the rate of activity and delivery, but should rather be viewed as providing additional time to meet the key outputs and outcomes with a view to realising the project objective.

A major theme that emerged during the interviews with project partners was the quality of research, technical papers and any construction undertaken. Several respondents noted that they had experience of inferior quality work in the past and that this was an element that they particularly appreciated in the project. Clearly the level of product – whether plans, maps or physical structures on the ground, needs to be maintained. Several respondents expressed an appreciation of the high quality of the project outputs/products such as reports, plans, maps etc., which is in contrast to their experience of past projects. Many expressed a desire to maintain this relatively high quality, as is reflected in the request

from NEA and others for further training and capacity building with the new methodology and software that the project has helped to purchase'. A number of the NEA staff were so concerned about this that, they not only requested more intense further training, but specifically wanted a process that included the testing of the practical capacity that they developed from the training to ensure that they had the requisite and usable competency. The MTE Team recommend that this request be taken seriously and that, if necessary, project funds should be re-allocated to address it, or additional funding should be sourced if this is insufficient to fully address their expressed training needs. This is not seen as a vital part of the current, comprehensive training/capacity building component of the project design, but could generate extensive goodwill at modest cost. It could instil the confidence in ability that appeared to be the real anxiety.

The completion of the digitization of the historic/long-term data records of the Rioni River Basin was noted by a number of respondents as a key achievement that is already playing an important role in efforts to map vulnerable areas and to put reaction plans in place. The completion of the geological hazard maps has also been seen as a significant achievement as it will greatly assist in addressing the threat of landslides. The Dam Safety Report has been well received by partners and key stakeholders.

Socio-economic reports on a total of 18 municipalities have been produced. This is an important achievement as it lays part of the basis for planning and for the calculation of the most vulnerable communities. This work goes beyond the 6 pilot municipalities and will assist in the rolling-out of the process to areas beyond the current project scope. This is clearly in line with the project objective.

The partner institutions have expressed appreciation for the role played by the Project Manager and his approach and engagement with them. The Project Management Unit, with the assistance of the Technical Advisor, the RTA and the UNDP Georgia CO, appears to be coping with the demands made on it. The MTE Team do not feel that additional staff members need to be recruited to the PMU. The streamlining of procurement procedures and the greater inclusion of project partners in the project activities and processes, as outlined in the section above, is seen as the way forward. The key element is to contract competent and professional service providers in a timely fashion and to harmonise the many products generated to contribute to the desired outputs in an efficient manner.

The project budget has been well managed with absolutely no signs of any major problems. The contracting delays relating to UNDP procurement requirements and the particular set of circumstances in Georgia aside, the project has been well run. The current PMU, with the oversight of the UNDP Georgia CO and the Project Board appears to be working well. Expenditure to date has been slower than anticipated, but is not yet lagging far behind the anticipated level. If the project realises the projected expenditure of the Revised Budget Revision of August 2014, something that the MTE Team doubts, then by the end of the year the project will have spent 58.6% of the overall project budget. If one takes the six month delay that occurred at the beginning of the project, this level of expenditure is no cause for concern. The same is true for projected expenditure for each of the components. Expenditure on Component 1 Flood Plain Development Policy Framework will be at 93% of the total budget for this component at the end of 2014. This is very much in line with expectations. Expenditure on Component 3 Flood Early Warning will stand at 86.3% of the total amount in the original budget for this component at the end of 2014, if the projected costs to the end of 2014 are indeed realised. This, too, would be very much in line with expectations and reflect a good rate of expenditure. This all

assumes that the real rate of expenditure during the remaining weeks of 2014 will be in line with the projections. However, the MTE Team feel that the projections are optimistic and challenges relating to the conclusion of building contracts to undertake works, already indicate that there will be delays which will translate into very considerably lower expenditure. As this component is a large part of the budget, it will have a dramatic impact upon the overall rate of expenditure for the project.

Component 2 Flood Management Practices will, according to current projections (revision August 2014), spend a cumulative total of $1,282,544 of the total component amount of $2,900,000, by the end of 2014. This constitutes 44.2%. Because of the large allocation for this component (57.3% of the total project budget) and the slightly slow rate of expenditure, combined with the contracting challenges being experienced there is concern that it impacts considerably on the overall rate of expenditure. Every effort needs to be made to address the challenges with Component 2, but this component alone, probably warrants a no-cost project extension. Streamlining the contracting processes and exploring options like partnerships between national and experienced companies from neighbouring countries with similar conditions, is one possible way forward.

The fourth budget component is associated with Project Management. This budget component is not directly associated with any one of the outcomes or outputs, but contributes to all. The total budget allocation for Component 4 is $490,000. Surprisingly, only $198,404 will have been spent by the end of 2014. This comprises 40.4%. This implies that there is sufficient funding in this component to carry the costs of management for an additional year if the decision is made to go for a 'no-cost' project extension.

Against originally projected expenditure for the end of 2014, there has been an 'under-spend' of $681,648 (if one accepts the projected expenses from August to December 2014). However, when one factors in the MTE Team opinion that the projected expenses from August to December 2014 are optimistically high, this figure is likely to be much higher. This is another indication that the no-cost extension of the project is possible and desirable.

The co-financing of $160,000 from UNDP TRAC funds constitutes 3.2% of total project funding. It is easily tracked and verified as it is totally dedicated to the management component. The MTE Team confirm that the committed co-funding has, indeed, been expended for this purpose.

While the MTE Team do not lightly or too readily recommend a 'no-cost' extension of the project, we feel that, if the project desperately chases the current project timelines, it could have a negative impact upon the quality of the work and some of the desired outcomes and potential opportunities. For example, if the time pressure simply leads to the appointment of foreign contractors, an opportunity would have been lost to build the capacity of Georgian firms, with consequent impact upon the long-term sustainability of initiatives and the optimization of the roll-out process. Ideally, local firms should gain capacity through the project to undertake similar and broader projects. This is one of the main factors behind the recommendation of the MTE Team that a 'no-cost' extension of one year be considered.

The planned emergency simulation exercise or 'dry run' (see Inception Report; Detailed Methodology Appendix on page 100) using all parties to respond to an 'emergency' is important. While emergency response is not the specific focus of this project, rather the mitigation of emergencies and the early

warning of these, a ‘dry run’ simulation it would clearly indicate the level of preparation and integration of systems to address the project objective. This should be undertaken under the leadership of the Disaster Prevention and Planning Department, Emergency Management Agency of the Ministry of Internal Affairs of Georgia. Despite going beyond the specific project remit, this would be a genuine ‘reality test’ of the elements of the project and their integration into broader national processes.

The evidence underpinning the conclusions and the related recommendations made in this section is reflected in the Evaluation Rating Table (Table 6).

5. INTRODUCTION

5.1 Purpose of the evaluation

The objective of the MTE is to provide an independent analysis of the progress of the project so far. The MTE also sought to identify any project design issues, evaluate progress towards the achievement of the project objective, identify and document lessons learned (including lessons that might improve design and implementation of other UNDP supported AF projects), and to make recommendations regarding specific actions that should be taken to improve the project implementation. The MTE sought to evaluate early signs of project success or failure and identify the necessary changes to be made. The project performance was measured based on the indicators of the project's logical framework and in line with UNDP evaluation procedures and processes.

The evaluation was focused on a comprehensive project assessment and seeks to provide a critical evaluation of all aspects of the project, including administrative and technical strategies and problems and restrictions. The evaluation has also provided recommendations in relation to the strategies, approaches and/or activities in order to enhance the project capacities for achieving the expected outcomes. The evaluation results have been incorporated in the recommendations to improve implementation in the future.

The MTE has sought to provide evidence-based information that is credible, reliable and useful. This has been used to support the statements, observations, ratings of performance and recommendations. The MTE was conducted by the Evaluation Team consisting of an International Evaluator/Team Leader and a National Consultant. The evaluation team followed a participatory and consultative approach ensuring close engagement with government counterparts, UNDP Country Office, project team, UNDP-AF Regional Technical Adviser responsible for the region and key stakeholders. The evaluation Team conduct field missions to Georgia (Tbilisi and project target municipalities: Oni, Ambrolauri, Lentekhi, Tsageri, Tskaltubo and Samtredia) during November 2014.

The team endeavoured to evaluate all relevant sources of information, such as the project document, project reports – including Annual PPRs, AF Tracking Tools, project budget revisions, progress reports, project files, national strategic and legal documents.

In summary, the purpose of the MTE was:

(i) To evaluate the overall project activities in relation to the objectives and expected outcomes as stated in the project document and the other related documents;

(ii) To evaluate the project effectiveness and cost-efficiency;

(iii) To critically analyse the arrangements of project management and implementation;

(iv) To evaluate the progress attained so far in relation to the project outcomes;

(v) To investigate the strategies and plans intended for the timely achievement of the overall project goal;

(vi) To list and document the first lessons learned in respect of the project design, its implementation and management;

(vii) To assess the sustainability of project interventions;

(viii) To assess the relevance of the project in relation to the national priorities;

(ix) To provide the recommendations for the future project activities and, where necessary, for the project implementation and management arrangements.

In particular, the mid-term evaluation exercise looked to assess the progress of creating the basic information, alleviation of threats and identification of any constraints to the project implementation and their causes. It also sought to provide the recommendations for corrective measures to be undertaken.

5.2 Scope & Methodology

The methodology for the research included:

I.A desk top study of the documentation relating to the project and including:

1. Project Document;
2. AF Project Performance Reports (PPRs) & AF Tracking Tool;
3. Quarterly progress reports and work plans of the various implementation task teams;
4. Audit reports;
5. The Expert Reports;
6. M & E Operational Guidelines, all monitoring reports prepared by the project;
7. Financial and Administration guidelines;
8. Project operational guidelines, manuals and systems;
9. Minutes of the Project Board Meetings (though this will only be of selected meetings as the records are in Georgian), the National Consultant will analyse these;
10. Maps;
11. The AF Operations guidelines; and
12. UND Monitoring and Evaluation Frameworks.

II. An Evaluation Matrix. In addition, an evaluation matrix and questionnaires to guide consultation with stakeholders was developed. The evaluation matrix is included as an appendix in this report;

III. Individual interviews with key informants;

IV. Where possible group discussions will be held with potential informants. Group discussions have a different dynamic from individual interviews; and

V. Field observation will provide an additional source of data.

Where possible, the information garnered from the various sources was compared and elements triangulated to provide strengthened evidence.

The veracity of factual findings has been with the Project Manager and other selected key informants like the RTA.

5.3 Structure of the evaluation report

The first part of the report covers the basic information about the project and the MTE itself, the evaluators, dates of field mission, table of contents and acronyms. This is followed by a 15 page Executive Summary that provides a brief description of the project and outlines the highlights of progress towards the project outputs and outcomes as well as significant shortfalls and providing a rating of progress for each outcome and output (on the UNDP 6-point rating scale). It also comments on implementation and budget management aspects as well as the realisation of co-financing commitment. Clear conclusions, recommendations and lessons are also outlined.

The Executive Summary is followed by an Introduction to the report that includes the purpose of the evaluation and its scope and methodology. This is followed by the Project Description and Development Context which includes: The project start and duration; problems that the project seeks to address; the objectives of the project; baseline indicators; the main project stakeholders; and the expected results.

The Findings section follows the Project Description and Development Context. This covers: Progress towards Results; Adaptive Management; and the Overall Management Arrangements.

The penultimate section of the report covers Conclusions, Recommendations and Lessons and includes: Corrective actions for the design, implementation, monitoring and evaluation of the project; actions to follow-up or reinforce initial benefits from the project; proposals for future directions of the project; and issues relating to relevance, performance and success.

The final section of the report comprises the annexes.

6. PROJECT DESCRIPTION AND DEVELOPMENT CONTEXT

The project started in 2012 and is scheduled to end at the end of June 2016. However, an effective six months was lost during early implementation and it took a number of months to contract the Project Manager. This has been compounded by a change in the Project Administrator/Finance Assistant and changes in personnel of key staff in partner agencies as well as the unexpected sudden loss of a key consultant have resulted in the project being 6 months behind the anticipated expenditure and delivery.

A complex mountainous topography makes Georgia very prone to hydro-geomorphological processes and climatic hazards. Georgia is located in the south Caucasus region, which is vulnerable to natural hazards. Historically, Georgia was exposed to natural disasters, including landslides, floods, flashfloods, mudflows, earthquakes, etc. Lately, floods, landslides, droughts, forest fires and coastal erosion along the Black Sea have become more frequent, causing damage to livelihoods and communities.

Around 3,000 settlements (which comprise 80 percent of the total number of settlements in Georgia,) in total with 400 thousand families experienced different degrees of risk of natural hazards during the last 30 years and more than 50 thousand families were resettled. It has been estimated that annual losses caused by natural disasters comprise USD 150-200 million on average (CENN 2007, Natural Disaster Risk Reduction in Georgia). As noted above, the incidence of disasters is increasing and, with the impact of Climate Change, is likely to accelerate.
The landslide hazard is serious in Georgia and 10,000 potential landslide locations have been identified, of which 3,000 are active (Pusch, 2004). Flood events are also very frequent in Georgia. The February 1987 flood in the Tbilisi region alone killed 110 people, affected 36,000 others and caused an economic loss of $546 million. In 1997, the flood events in the Tbilisi-Gori-Kvemo-Kartli region killed 7 people, affected 500 others and incurred a reported economic loss of $29.5 million. In June 2005, the flood in the Mtsketa-Tianetsk region killed 1 person, affected 51 others and caused an economic loss of $2 million (Central Asia and Caucasus Disaster Risk Management Initiative).

Despite the fact that Georgia is highly-prone to natural disasters, as an independent state, it has a short history of disaster risk management. After the collapse of the Soviet Union the country experienced a lack of financial, administrative, human and political capacity to respond to the needs for disaster risk reduction measures.

The most important steps towards Disaster Risk Management (DRM) were the establishment of two important agencies, which are: Emergency Management Department (EMD) under the Ministry of Internal Affairs (in 2005) and the National Environmental Agency (NEA) (2008)1 under the Ministry of Environment and Natural Resources Protection. At a later stage other institutions and entities became engaged in DRM.
The current arrangements for DRM are complex and involve different agencies. The crises event is coordinated by the Prime-Minister's Office. There is no single agency which is engaged in the whole cycle of DRM. Tasks and responsibilities are spread among the various governmental agencies.
Emergency Management Department (EMD), which is part of the Ministry of Internal Affairs, is primarily responsible for emergency response during natural and other disasters. Its functions include mitigation and prevention of emergency situations. Together with other entities it is responsible to forecast and monitor emergency situations. EMD develops civil protection and emergency response plans and manages emergency situations both at national and regional level all over the country. EMD is supported by the Expert-Advisory Council (created in 2013, ministerial order #479). The Council is composed of scientists or experts from different Ministries, organizations, academic institutions, research centers and NGOs. The Council provides scientific and expert opinion to EMD on particular natural hazards or any other threats and assists the department to elaborate preventive and mitigation measures.
The National Environmental Agency (NEA) is a sub-agency of the Ministry of Environment and Natural Resources Protection, holding the status of a legal entity of public law. The major role of the Agency is to collect and analyze environmental data. Functions related to disaster monitoring, forecasting and prevention also rest within the Agency. NEA is responsible for monitoring of hydro-meteorological and geodynamic processes all over the country. The Agency is required to make forecasts of existing and expected natural hazards and risks and provide early warning notice to the relevant stakeholders.
Ministry of Regional Development and Infrastructure (MRDI) is mainly indirectly involved in DRM supporting emergency situation during the recovery process (e.g. fixing communication and transport networks after the disaster, rehabilitation of roads, etc.). A particular function related to river banks and sea coast protection lies within the agency. Monitoring of the vulnerable and risk zones and

[1] The Centre of Monitoring and Prognosis, established in 2006 and re-established later as NEA.

implementing bank protection measures falls under the competencies of the Coast protection Unit of the MRDI[2].

The main laws and strategy documents governing disaster risk management and reduction in Georgia are:
Draft "National Defence Strategy", 2014
National Environmental Action Plan of Georgia for 2011-2015 (2010),
"National Response Plan for Natural and Man-made Emergency Situations", Adopted on the basis of the Decree #415, by the President of Georgia (2008);
Law on "Protecting the Population and Territory from Natural and Man-made Emergency Situations" (2007);
Law on "State of Emergency'' (1997);
Martial Law of Georgia (1997)
Law on Environmental Protection (1996).

These are outlined to emphasise the complexity of the regulatory environment that the project has to navigate. The project interacts with a range of different ministries and agencies within this complex regulatory system.

Georgia is part of the Hyogo Framework for Action (HFA) from 2005 and several bilateral agreements with different countries, including Azerbaijan, Armenia, Russian Federation, Kazakhstan, Turkey, etc. These agreements envisage support and cooperation with the above-mentioned countries during man-made and natural hazards.

The underlying causes of vulnerability to climate change in the Rioni Basin can be categorised into 1) physical factors –direct manifestations of climate change, 2) factors caused by anthropogenic intervention – those related to the harmful ways in which humans have and continue to interact with the environment which has exacerbated vulnerability and 3) Institutional factors – related to the legislative/regulatory barriers placed by government and other institutions, as well as limited capacity (human and resources) to manage climate change vulnerability.

It is within this context that the project under review selected the Rioni River Basin as the pilot area for this climate change Adaptation Project and specifically set out to address the following barriers to building climate change resilience:

- Land use decisions are over-fragmented across the various institutions at all levels that result in absence of any coherent land use policy. As a result, there are no regulations for internalizing climate change risks into land use policy nor zoning or land use planning limits and controls to manage flood risks more effectively;

- any regulations imposing restrictions on business and infrastructure development are likely to be viewed by some at the government institutions as potential limitations to economic progress, much needed for country's poverty reduction aims;

- observation capacities are equally low that hampers more vigorous early warning; alert levels have not been revisited for decades and hazard maps need to be updated with comprehensive forward looking hazard profiling;

[2] The Coast Protection Unit was part of the NEA. In 2011 during restructuring of the Ministry of Environment the Coast Protection Unit was transferred from NEA to the MRDI.

- there is limited knowledge and application of the latest methods of flood management, especially bio-engineering methods that are more robust to all possible hazard evolution scenarios that might be realized in Georgia, as a result of climate change; and

- human capacities are limited at national and especially at local levels and lack decision support tools that help a better preparedness to increasing flood risks.

The project objective is to improve resilience of highly exposed regions of Georgia to hydro-meteorological threats that are increasing in frequency and intensity as a result of climate change. The project will help the governments and the population of the target region of Rioni Basin to develop adaptive capacity and embark on climate resilient economic development. The project is comprised of three main components:

1. Floodplain development policy introduced to incentivize long term resilience to flood / flash flood risks;
2. Climate resilient practices of flood management developed and implemented to reduce vulnerability of highly exposed communities;
3. Early warning system in place to improve preparedness and adaptive capacity of population. (Pro.Doc.)

The project aims to develop resilience of highly vulnerable communities and regions to climate related hazards, such as floods, and flash floods. Activities have been prioritised through consultation with local communities including heads of municipalities, NEA (National Environment Agency at the Ministry of Environment Protection) local staff responsible for management of the hydrometric network and national NEA and Ministry of Regional Development and Infrastructure (MRDI) staff responsible for the assessment of need (NEA) and implementation of flood protection measures in the catchment (MRDI). The project takes an integrated and comprehensive approach by addressing critical gaps in land use policy and regulatory framework, fundamental to climate resilient flood management. The project will implement the Georgian Government's priorities for effective and long term measures for flood prevention and management by direct involvement of local municipalities and populations residing in the highly exposed locations. The project will enhance the capacity of all appropriate national agencies to timely and effectively deliver early warning. A balanced combination of policy, early warning and concrete adaptation actions will support Georgia to take steps towards long term resilience of the most vulnerable communities residing in the Rioni River Basin region.

The baseline indicators established for the project were fairly clear and well-founded. However, some of the output indicators were not SMART and required some fairly minor revision. These are outlined below under Section 7, Findings.

The project stakeholders are fairly broad and include:

- The six participating municipalities within the target pilot area of the Rioni River Basin: Ambrolauri Municipality, Oni Municipality, Lentekhi Municipality, Samtredia Municipality, Tskhaltubo Municipality and Tsageri Municipality.
- Ministry of Environment and Natural Resources Protection of Georgia.

- The National Environmental Agency (NEA) that falls under the Ministry of Environment and Natural Resources Protection.
- The Ministry of Regional Development and Infrastructure (MRDI).
- The Disaster Prevention and Planning Department, Ministry of Internal Affairs of Georgia.
- Natural and Technological Hazard Management Service, Ministry of Environment and Natural Resources Protection of Georgia
- The less directly active stakeholders include the over 200,000 people living in the six pilot municipality areas of Ambrolauri, Oni, Lentekhi, Samtredia, Tskhaltubo and Tsageri. Other beneficiaries will include the over 900,000 people living in the Rioni River Basin.

The project builds on a number of earlier development projects. It is broadly compatible with these, though geographic and thematic scope has meant that there is no apparent duplication – rather a degree of 'cross-pollination'. The projects and initiatives that are of relevance to the Developing Climate Resilient Flood and Flash Flood Management Practices to Protect Vulnerable Communities of Georgia Project include:

USAID – Integrated Environmental Management in Watersheds of Georgia" (INRMW):

USAID-Caucasus initiated a US$6 Million multi-year project in 2010: "Integrated Environmental Management in Watersheds of Georgia" (INRMW). This sought to improve current and future lives of people in Georgia by utilizing and managing natural resources more sustainably, including water, soil, vegetation, and the ecosystems that encompass them. The project aims to introduce innovative approaches and practical models of participatory integrated natural resources management in targeted watersheds, by facilitating reforms to and harmonization of national policies, and by increasing the capacity of national and regional institutions to replicate these approaches and models throughout the country. This is happening in four watersheds, including the Rioni River Basin and efforts will be made to upscale and disseminate them across the country. The focus of the project is on sectors for water, land, biological and mineral resources management as well as on sectors having adverse impacts on ecosystems, including agriculture, energy and water supply. The existing enabling environment and current practices for management of wastes, natural disasters and climate change, significantly affecting the resource base of the targeted river basins are also considered. In addition, USAID will provide design and implementation assistance and advice to the Government of Georgia and coordination between the various agencies involved. The USAID project mainly focuses on issues of water distribution, resource management, minimization of pollution and the improvement of an overall management practice. The activities largely focused on large urban systems and also watershed management as relate to hydropower sector development in Georgia. The baseline data collected by USAID helped save time and effort for the Developing Climate Resilient Flood and Flash Flood Management Practices to Protect Vulnerable Communities of Georgia Project. The Developing Climate Resilient Flood and Flash Flood Management Practices to Protect Vulnerable Communities of Georgia Project can build on the background of the work of this project, particularly on the climate change and hydro power dam components. The "Integrated Environmental Management in Watersheds of Georgia" Project is represented on the Project Board of the Developing Climate Resilient Flood and Flash Flood Management Practices to Protect Vulnerable Communities of Georgia Project and has made contributions to the direction of the project.

USAID – Climate Change Adaptation and Disaster Mitigation (CCADM):

USAID has also funded the "Climate Change Adaptation and Disaster Mitigation (CCADM)" project. This project somewhat pre-dated the Developing Climate Resilient Flood and Flash Flood Management Practices to Protect Vulnerable Communities of Georgia Project. The overall goal of the project was to

develop flexible and resilient societies and economies in rural areas of Georgia capable of coping with the impacts of current climate variability and future climate change. The specific objective of the Project was to reduce the susceptibility of local communities in the pilot rural areas of Georgia (Samtskhe-Javakheti, Adjara and Kakheti regions - regions that do not overlap with the Rioni Basin area. The CCADM addressed negative climate impacts through post-conflict environmental rehabilitation, natural disaster risk reduction (DRR) and climate change adaptation (CCA). Lessons learned were incorporated in the activities of the Developing Climate Resilient Flood and Flash Flood Management Practices to Protect Vulnerable Communities of Georgia Project.

World Bank - Europe and Central Asia Climate Change Risk Mitigation Measures project

The aim of this project was to introduce a simple and cheap community-operable system of early warning on the expected floods to rural communities of the upstream Rioni River Basin. A small network of community-operated monitoring instruments was installed to provide flood risk warnings within the pilot region of Racha, upstream Rioni basin. Staff members of Hydromet service were trained in installation of the community-operable monitoring networks for flood warning and in interpretation of data coming from such networks. The Developing Climate Resilient Flood and Flash Flood Management Practices to Protect Vulnerable Communities of Georgia Project sought to provide broader coverage and more rigour to the network developed by the World Bank project.

EC Delegation on Georgia - Strengthening local capacity and developing structured dialogue and partnerships for mitigating natural disasters and reducing poverty in Georgia

The EC Delegation funded this project which has closed. It sought to: (i) Strengthen local capacity to empower affected communities and local authorities to prevent and reduce the natural disaster risks and promote sustainable rural development in the targeted regions of Georgia; (ii) Develop issue-based coalition and partnerships to stimulate structural dialogue between the local communities, local authorities and central government concerned with the natural disaster risk reduction (DRR) and management; (iii) Prioritize the natural disaster risk reduction (DRR) and management in the State agenda as key factors for eradication of poverty and lobbying for allocation of funds to competent central (Ministry of Environment Protection, Ministry of Agriculture) and local authorities to address natural disasters. The efficacy of this local capacity building should be assessed. With the change in municipal personnel, it would be surprising if this has achieved abiding impacts.
(Project Document, interviews with key informants, including the USAID funded Integrated Natural Resource Management in Watersheds of Georgia Project).

7. FINDINGS

7.1 Project Design:

The project design is generally good and the project is accepted and endorsed by the key partners who recognise its importance. The combination of technical work, new technologies and instruments, with practical on-the-ground implementation is greatly appreciated by all the partner agencies, government ministries, provincial authorities and NGOs.

The project clearly addresses national priorities as well as conforming to the global guidelines of the Adaptation Fund. The logframe has generally been well developed, though there are a few output

indicators that are not SMART. Suggestions to remedy these are made in the Table of Suggested Alterations to the Project Logframe Table below.

The project is ambitious and innovative, which is appropriate, in seeking to develop the weather index insurance as a financial instrument to manage flood risks, and the establishment and implementation of new building codes that increase resilience to climate change. These are worthy and innovative project outputs. While the technical work of these two components is well under way and is, in the view of the MTE Team, likely to be successfully concluded, the MTE Team is not entirely confident that these elements will result in a practical application on the ground within the project duration. The re-focusing on insurance for catastrophic events linked insurance certainly will help, but timing is likely to provide a challenge. It is also worth noting that navigating the new building codes through the legislative processes and having it encoded in law/regulation by end of the project is likely to prove very challenging. Several informants specifically referred to the fact that processes like this in Georgia can, frequently, take much longer than anticipated. The current specific wording of the logframe is thus appropriate as it does not bind the project to taking the new codes through the legislative process. The fact that the Government of Georgia is, independently of the project activities, engage in a review of building codes, certainly increases the likelihood of success as the project will simply need to influence this process, t=rather than initiate a separate or new process.

7.2 **Table (5) Suggested Output & Output Indicator Revisions:**

Outcome/Output	Outcome/Output Indicator	Suggested change to Output Indicator	Reason
Outcome 1: Floodplain development policies in place to minimise exposure of highly vulnerable people of Rioni river basin to climate change induced flood risks.	**Indicator 1.1:** Floodplain development policies in place, which minimise Climate change vulnerability implemented by close of the project.		
Output 1.1. Hazard and inundation maps produced for whole basin.	**Indicator 1.1.1:** Studies conducted to develop to model and map the hydrometeorological hazards of the whole Rioni basin.	Completed study reports to model and map the hydrometeorological hazards of the whole Rioni basin.	The current wording makes this more of an activity than an output indicator.
Output 1.2. Enhanced land-use regulations introduced (land-use planning, including zoning and development controls, e.g. expansion, economic development categories etc.) to ensure comprehensive floodplain management and spatial planning.	**Indicator 1.2.1**. A comprehensive and robust land use and floodplain development policy framework for Rioni basin.		
Output 1.3. New building codes reviewed and streamlined for the housing rehabilitation schemes to flood proof new buildings (e.g. material standards, traditional house raising etc.).	**Indicator 1.3.1.** New building codes including building flood resilience measures.		This indicator is well formulated for this project, though normally one would be more specific "New building codes including building flood resilience measures designed and implemented in the Rioni River Basin". However,

			because of the uncertainty about the project's ability to see these implemented within the project operational time span, the current, not too specific formulation should be retained.
Output 1.4. Targeted training of national and local authorities responsible for climate risk management in advanced methods of forward looking climate risk management planning and flood prevention measures.	**Indicator 1.4.1** At least 42 NEA staff and 60 municipality staff trained in modern hazard mapping and risk assessment techniques.	NEA, other relevant ministry staff and municipality staff trained in modern hazard mapping and risk assessment techniques.	Current formulation is that for a target not an indicator. Better to leave the numbers out & include as a target rather than in the indicator.
Output 1.5. Community-based flood insurance scheme designed and implemented covering highly exposed villages under 6 municipalities.	**Indicator 1.5.1.** At least 1 pilot community-based flood insurance scheme in place.	**Indicator 1.5.1.** At least 1 pilot community-based flood insurance scheme designed.	This target is very unlikely to be met within the current project duration with the current wording. Designing the scheme and engaging with key partners to obtain their approval will itself be a significant achievement.
Outcome 2: Direct investments and local actions in highly exposed and vulnerable communities improve flood management practice on 8,400km^2 and build resilience of 200,000 people.	**Indicator 2. 1:** Number of community based adaptation solutions implemented at the local level upon project closure.		
	Indicator 2.2: % of population with improved water management practices resilient to climate change impacts in the targeted regions.		
Output 2.1. Direct measures of long term flood prevention and risk mitigation designed with participation of local governments and population in 6 municipalities (Lentekhi, Oni, Ambrolauri, Tskaltubo, Samtredia, Tsageri).	**Indicator 2.1.1.** Feasibility outline and detailed design studies undertaken to ensure the best climate resilient intervention measures are adopted which will include bioengineering solutions as well as traditional hard engineering options. **Indicator 2.1.2.** 15 schemes implemented in the 6 municipalities.	**Indicator 2.1.2** "Climate intervention measure schemes introduced in 6 municipalities".	The way Indicator 2.1.2 is currently formulated is like a target not an output indicator.
Output 2.2. Community-based adaptation measures, such as bank terracing, vegetative buffers, bundles and tree revetments implemented through the municipal employment guarantee scheme.	**Indicator 2.2.1**. Municipal employment-guarantee scheme employing local people in the implementation of the adaptation schemes being implemented. Long-term involvement of local population in the maintenance of flood protection infrastructure.	**Indicator 2.2.2** Long-term involvement of local population in the maintenance of flood protection infrastructure.	Current formulation has two indicators included as one. Separate them for clarity. The suggested 2.2.2 is still not really **Specific** enough - of vagueness of "long-term and "involvement" not being defined, but we still suggest that we stick with this formulation.
Output 2.3. Flood plain	**Indicator 2.3.1.** Agro-		

seasonal productive systems (e.g. short season annual cropping, cattle rearing plots or seasonal pastures, agro-forestry) benefit 200,000 people and improve resilience to flood threat.	forestry, cattle rearing plots and seasonal cropping measures adopted in all 6 municipalities established.		
Output 2.4. Lessons learned and best practices documented and disseminated to raise awareness of effective climate risk management options for further up-scaling.	**Indicator 2.4.1.** Municipal records of employees guarantee scheme and number of people employed per year	"Process for gathering and documenting lessons and distilling these into 'best practice' examples understood and agreed to by key stakeholders and being used."	The current formulation is rather the means of verification. With different wording it could be an indicator, but not a good one for this Output 2.4. It is more conceptually linked to Output 2.2. Inserting "Best practice guidance documents for all aspects of the project to capture lessons learnt and ensure duplication in other river basins" would be appropriate.
Outcome 3: Institutional Capacity developed for early warning and timely alert communication to vulnerable communities of the Rioni river basin.	**Indicator 3.1.** Flood forecasting and early warning systems introduced to benefit over 200,000 people at risk in the Rioni basin from flood, flash flood and landslide risk in the basin.		
	Indicator 3.2. Establishment/rehabilitation of monitoring stations to increase spatial coverage.		
	Indicator 3.3. Number of associations with improved institutional capacity to deliver water services to target communities.		
	Indicator 3.4: % of targeted population with more to early warning in the face of climate change.	**Indicator 3.4:** % of targeted population with more access to early warning in the face of climate change.	
	Indicator 3.5. Number of national and local staff with flood forecasting, early warning and flood risk assessment capabilities.		
Output 3.1. Long term historical observation data digitised and used in policy formulation and risk management practices	**Indicator 3.1.1.** Database of historical observation data for Rioni digitised.		
Output 3.2. Multi hazard risk assessment for the Rioni river basin (floods, flash floods, associated mudflows and landslides, linked with climatic alterations under alternative scenarios).	**Indicator 3.2.1.** Rioni flood forecasting model developed, which will couple outputs from downscaled meso-scale meteorological systems to HEC-HMS hydrological models. Linked forecasting met-hydrological-hydraulic model.		
Output 3.3. Series of	**Indicator 3.3.1.** At least 10	**3.3.1.** NEA staff trained in	Indicators should not

targeted training delivered for the NEA staff and partner organisations in the advanced methods of risk assessment and forecasting.	NEA staff trained in risk assessment and forecasting and EWS. Municipality emergency staff trained in emergency response. Strengthened capacity of national and local staff in monitoring, flood forecasting, early warning and emergency response.	risk assessment and forecasting and EWS. **3.3.2.** Municipality emergency staff trained in emergency response. **3.3.3**. Strengthened capacity of national and local staff in monitoring, flood forecasting, early warning and emergency response.	include target numbers. These are three indicators.
Output 3.4. Essential equipment to increase monitoring and forecasting capabilities in the target basin procured and installed.	**Indicator 3.4.1.** Purchase and install 5 Met stations, 20 Met posts, and 10 Hydrological posts. Observation network of all hydrological and meteorological variables to provide an appropriate level of spatial resolution of these variables for early warning.	**3.4.1.**.Purchase and install Met stations, Met posts, and Hydrological posts. **3.4.2.** Observation network of all hydrological and meteorological variables to provide an appropriate level of spatial resolution of these variables for early warning.	Indicators should not include target numbers. These are two indicators, not one.
Output 3.5. Systems established at the national and sub-national level led by the NEA for long and short term flood forecasting of hydrological risks; including dissemination and communication of forecasts.	**Indicator 3.5.1.** A fully integrated flood early warning system (Deltares-FEWS) which links forecasting models to telemetered data as input and forecasting reporting and warning systems as output.		
	Indicator 3.5.2. An early warning communication network using different communication links such as telephone trees, SMS and e-mail networks.		
	Indicator 3.5.3. GIS-based website for dissemination of hazard maps and associated information, such as hydrometeorological telemetric and Deltares-FEWS data to central and local government stakeholders.		
	Indicator 3.5.4. A public-facing website presenting key layers of information, with the potential to disseminate early warning information to the public.		
	Indicator 3.5.5. Early warning awareness and training workshops for community, NGOs, government and media representatives.		

7.3 Progress Towards Results:

The overall rating of project progress towards project outcomes is satisfactory (S). There is cause for additional effort and focus for the project to address some of the challenges slowing progress, but the project is broadly well on-track.

Results Progress Table, Evaluation Rating Table (6):

Objective: To improve resilience of highly exposed regions of Georgia to hydro-meteorological threats that are increasing in frequency and intensity as a result of climate change.			
Outcome/Outputs	**Indicator**	**Rating & Progress**	**Evidence**
Outcome 1: Floodplain development policies in place to minimise exposure of highly vulnerable people of Rioni river basin to climate change induced flood risks.	**Indicator 1.1:** Floodplain development policies in place, which minimise Climate change vulnerability implemented by close of the project.	(S) Progress towards this outcome is proceeding well (satisfactorily). Progress on 4 of the 5 constituent outputs has been satisfactory and for output 1.1 has been highly satisfactory. The definition of "in place" is somewhat uncertain. If this means developed then the MTE Team does not envisage any serious problem in completely meeting this outcome indicator. However, if it involves getting the policies through formal processes and actually implemented on the ground, then, while current progress is satisfactory, we anticipate time challenges as these processes, which lie beyond the direct control of the project, can take considerable time.	Progress as indicated by documentation, feedback from the interviewees as well as the Project Management Team, the UNDP CO personnel and the RTA.
Output 1.1. Hazard and inundation maps produced for whole basin.	***Indicator 1.1.1:** Studies conducted to develop to model and map the hydrometeorological hazards of the whole Rioni basin.	(HS) Completed with good quality maps for hazards (landslides) and inundation. Good geologist reports and cadastral information produced. These go beyond the pilot areas and cover the entire basin.	Sample of maps & report, Board meeting minutes & partner reports.
Output 1.2. Enhanced land-use regulations introduced (land-use planning, including zoning and development controls, e.g. expansion, economic development categories etc.) to ensure comprehensive floodplain management and spatial planning.	**Indicator 1.2.1**. A comprehensive and robust land use and floodplain development policy framework for Rioni basin.	(S) Technical reports completed, reviewed legislation and the institutional framework, defined gaps and provided recommendations for a comprehensive land use and flood plain development policy framework but land-use zoning by experts not completed. This is still some way off but the process is under way. Socio-economic assessments also still need to be completed. Once this has been completed will still need to consult with authorities & take for formal legal approval.	Existence of reports, project reports, interviews with Project Manager & project partners.
Output 1.3. New building codes reviewed and streamlined for the housing rehabilitation schemes to flood proof new buildings (e.g. material standards, traditional house raising etc.).	***Indicator 1.3.1.** New building codes including building flood resilience measures.	(S) Final technical report making suggestions on amendment of building codes has been completed. These have been endorsed by an inter-agency working group. This needs to be taken to the ministries (including economics) and then possibly through parliament. While insurance and other incentives might encourage people to change building practices, unless there is some statutory requirement, most informants felt that the measures would not be successful. While the progress towards this output is currently on track and the wording of the indicator could be interpreted as in such a	Existence of reports, project reports, report by Project Manager & project partners.

		way that this output can be seen to have been achieved.	
Output 1.4. Targeted training of national and local authorities responsible for climate risk management in advanced methods of forward looking climate risk management planning and flood prevention measures.	***Indicator 1.4.1. A**t least 42 NEA staff and 60 municipality staff trained in modern hazard mapping and risk assessment techniques.	(S) More than twenty staff members have been trained. The NEA has been the prime beneficiary, but more attention will need to be directed towards other agencies and the municipalities. This will not necessarily involve training them as technical experts in all the technologies made available through the project. The roll-out of training will continue in 2015 and this output should be fully achieved. All of the partners, including the NEA as executing agency, emphasised the need for high quality training and actual capacity building. They want to be confident to use the new technology and instruments and have even requested practical testing of their capability. They were somewhat critical of training efforts by other projects that they felt was too superficial. They want to have a high level of operational capability and want more intensive training. The project is developing plans for specialist training at university level (both abroad and national) as well as on-going on-the-job training.	Project report, report from Project Manager, interviews with project partners, including NEA personnel as well as written comments from the Project Technical Advisor, the UNDP CO and the RTA.
Output 1.5. Community-based flood insurance scheme designed and implemented covering highly exposed villages under 6 municipalities.	**Indicator 1.5.1.** At least 1 pilot community-based flood insurance scheme in place.	(S) To date and given the six month plus delay in the start of the project, activities towards this output are broadly on track. However, the succeeding activities required to realise putting a community based flood insurance scheme in place could take much longer than anticipated. The adaptive response to the feedback from the insurance workshop is to be applauded and the change to pilot catastrophe insurance encourages far greater confidence that the target will be met within the project duration. The original target of providing a pilot flood insurance scheme for three hundred families was not likely to yield a valuable outcome. The flood insurance package should be completed by the end of February 2015.. This is a very innovative element of the project and certainly worth pursuing, but it is a risky element of the project. The bio-engineering and other adaptation measures that are associated with limiting risk and hence lowering premiums are nevertheless very important.	Workshop report, project and technical reports and interviews with Project Manager and RTA.
Outcome 2: Direct investments and local actions in highly exposed and vulnerable communities improve flood management practice on 8,400km^2 and build resilience of 200,000	**Indicator 2.1:** Number of community based adaptation solutions implemented at the local level upon project closure.	MS Although it is far too early to properly judge progress towards this outcome indicator, the MTE Team feel that the progress has been modest to date (partly because of disruptions associated with changes of decision-makers at municipality level) and that the project's major challenges will lie in getting	Discussions with municipalities and government ministries.

people.		implementation on the ground. To address this, the project should concentrate on identifying and supporting a local, powerful 'champion' to lend support to the processes at municipal level.	
	Indicator 2.2: % of population with improved water management practices resilient to climate change impacts in the targeted regions.	(S) It is far too early to judge the performance of the project against this outcome indicator. However, the MTE Team are confident that there will be a significant increase in the number of people with improved water management practices that are resilient to climate change impacts in the Rioni River Basin. The challenge will again lie with getting measures implemented on-the-ground and a combination of working with a local champion (as outlined above) and an intensive community campaign is probably an appropriate strategy.	Discussions with municipalities and government ministries.
Output 2.1. Direct measures of long term flood prevention and risk mitigation designed with participation of local governments and population in 6 municipalities (Lentekhi, Oni, Ambrolauri, Tskaltubo, Samtredia, Tsageri).	**Indicator 2.1.1** Feasibility outline and detailed design studies undertaken to ensure the best climate resilient intervention measures are adopted which will include bioengineering solutions as well as traditional hard engineering options. ***Indicator 2.1.2.** 15 schemes implemented in the 6 municipalities.	(MS) Traditional engineering interventions designs have been completed for four sites to date. A further five sites will be completed during the coming winter months as the work is restricted by seasonal factors like water levels and flows. Work on this component has only recently commenced and stands at about 35%, but the PMU is confident that this target will be met by project close. The engineering design was delayed by having to wait for the completion of the geological studies, the completion of the hydraulic modelling, delays in the recruitment of the Lead HS engineer. Lead HS engineers have already identified and recommended bio-engineering measures for some of the remaining sites. The MTE team feels that the bioengineering and traditional engineering interventions might take longer than anticipated and counsel that this element be closely monitored over the remained of the project. This remains an important component of the project and time pressure should not compromise the realisation of this element. The Project Manager has noted that he is confident that 12 schemes will be in place.	Project report, report of the Project Manager, UNDP Environment Team Leader and project partners (municipalities).
Output 2.2. Community-based adaptation measures, such as bank terracing, vegetative buffers, bundles and tree revetments implemented through the municipal employment guarantee scheme.	***Indicator 2.2.1**. Municipal employment-guarantee scheme employing local people in the implementation of the adaptation schemes being implemented. Long-term involvement of local population in the maintenance of flood protection infrastructure.	(S) According to the project work plan, work on activities related to this output was only scheduled to begin early in 2015. The rating for performance must therefore be a neutral (S) as some positive groundwork has been completed with the municipalities. However, because of changes in personnel in the municipalities as well as some confusion about processes, the MTE Team is concerned that this might be quite complex and take considerably longer than anticipated.	Field observation, interviews with key municipal informants, project records and the Project Manager.
Output 2.3. Flood plain seasonal productive	**Indicator 2.3.1.** Agro-forestry, cattle rearing plots	(S) Most of the activities associated with this output are scheduled for 2015.	Project report, interview with

systems (e.g. short season annual cropping, cattle rearing plots or seasonal pastures, agro-forestry) benefit 200,000 people and improve resilience to flood threat.	and seasonal cropping measures adopted in all 6 municipalities established.	Currently progress is broadly in line with the project work plan. The initial focus has been on agroforestry. To date the fencing of areas has been completed. The project has partnered with ELKANA, a Georgian NGO for these works. A new contract will be concluded between the project and ELKANA during December. This will cover the planting and maintenance of trees. It will start in early spring and be followed-up with replacement planting in autumn. The other elements will require considerable effort soon. The MTE Team is confident that ELKANA will complete their tasks relating to the agroforestry, but establishing the annual cropping regime for seasonal crops and for livestock rearing will pose challenges and will, in our reckoning, take considerable time.	Project Manager and ELKANA and discussions with municipal officials who anticipated challenges in the process that could cause delays.
Output 2.4. Lessons learned and best practices documented and disseminated to raise awareness of effective climate risk management options for further up-scaling.	***Indicator 2.4.1.** Municipal records of employees guarantee scheme and number of people employed per year.	(MS) While the MTE Team feels that it is too early to distil lessons learnt from the project field experience, the MTE Team are concerned that a clear mechanism for systematically and regularly collecting data and analysing it to create information is not fully understood by some of the key role players. The technical guidance documents that have been written for all aspects of the technical work undertaken on the project so far are of good quality and do contribute in an important way to 'best practice' and replication opportunities in other river basins. The Adaptation Tracking Tool will certainly also provide information that will assist this element, but is not sufficiently fine grained to allow deeper insights that might be derived from the project implementation process. The MTE Team will make suggestions for systematizing the process to obtain maximum benefits.	Project records, the Adaptation Tracking Tool, interviews with Project Manager and RTA as well as submissions from UNDP CO and the Project Technical Advisor.
Outcome 3: Institutional Capacity developed for early warning and timely alert communication to vulnerable communities of the Rioni river basin.	**Indicator 3.1.** Flood forecasting and early warning systems introduced to benefit over 200,000 people at risk in the Rioni basin from flood, flash flood and landslide risk in the basin.	(S) The completion of the geological hazard maps which were prepared by the Geological Department of NEA and the project's GIS expert. The flood hazard maps have also been completed. The final report on Dam Safety has also been completed and has been very well received by the authorities. These elements still need to be consolidated into a flood forecasting and early warning system.	Project report (Jan-March 2014), interviews with manager, NEA staff and the staff from 3 ministries including Environment.
	Indicator 3.2. Establishment/rehabilitation of monitoring stations to increase spatial coverage.	(S) This task should be completed by early 2015.	Interview with Project Manager, NEA staff, project reports and on-site verification of a small sample.
	Indicator 3.3. Number of	(MS) NEA has been the primary	Interview with

	associations with improved institutional capacity to deliver water services to target communities.	beneficiary, but further capacity building is requested and efforts to include the municipalities should be expanded. The project recognises the requirement for longer-term training such as university training courses for the appropriate people who will take the practice forward and a more strategic approach to capacity building and skills retention (e.g. through development of courses at universities and the implementation of internships/partnerships with universities once base capacity has been built). Training of municipalities is scheduled for 2015 and 2016 once other elements like the emergency response plans, development control rules and intervention measures are in place. However, the municipalities (largely because of the turnover of personnel) are not au fait with the planned process and seemed uncertain about how matters would evolve.	Project Manager, NEA staff, project reports and Disaster Prevention and Planning Department, Ministry of Internal Affairs.
	Indicator 3.4: % of targeted population with more **access to early warning in the face of climate change.	No real activity or progress yet on this outcome indicator. Too early to tell. The PM needs support to understand how data to verify progress against this indicator will be collected.	Interview with Project Manager & project reports
	Indicator 3.5. Number of national and local staff with flood forecasting, early warning and flood risk assessment capabilities.	(S). Some progress has been achieved notably with NEA staff, though they have expressed a need for further training and capacity building.	Interview with Project Manager, NEA staff, project reports
Output 3.1. Long term historical observation data digitised and used in policy formulation and risk management practices	**Indicator 3.1.1.** Database of historical observation data for Rioni digitised.	(HS) This has been accomplished and the data is already being used practically in modelling.	Interview with Project Manager, NEA staff, project reports.
Output 3.2. Multi hazard risk assessment for the Rioni river basin (floods, flash floods, associated mudflows and landslides, linked with climatic alterations under alternative scenarios).	**Indicator 3.2.1.** Rioni flood forecasting model developed, which will couple outputs from downscaled meso-scale meteorological systems to HEC-HMS hydrological models. Linked forecasting met-hydrological-hydraulic model.	(S) The multi-hazard risk assessment for the Rioni Basin has been partly completed (about 25%). Work is on-going on the early warning and flood forecasting modelling. Conversion of the hydraulic model developed in 1.1 to a FFEWS model, and that of the input hydrological model as well as the Delft-FEWS system which will be the FFEWS interface and which is currently under way for conclusion by the end of January 2015, is encouraging. In addition, institutional arrangements for the implementation of the FFEWS are currently being undertaken and will continue in January. It is noted that most of the training around this element will occur in 2015 and 2016.	Project reports, Interviews with Project Manager, NEA staff.
Output 3.3. Series of targeted training delivered for the NEA staff and partner organisations in the advanced methods of risk assessment and forecasting.	**Indicator 3.3.1.** At least 10 NEA staff trained in risk assessment and forecasting and EWS. Municipality emergency staff trained in emergency response.	As most of the training is scheduled for 2015 and 2016, and some training has been done on risk assessment for early warning - though this has been limited to date - the MTE Team feel that progress has been about satisfactory (S). Further	Project reports, Interviews with Project Manager, NEA staff, partner government

	Strengthened capacity of national and local staff in monitoring, flood forecasting, early warning and emergency response.	training is scheduled for 2015 and 2016. The project executing agency (NEA) staff, the municipalities and all partner institutions place great emphasis on the training and the quality of the training. This is a very important component that we feel deserves additional attention and resources.	ministries.
Output 3.4. Essential equipment to increase monitoring and forecasting capabilities in the target basin procured and installed.	**Indicator 3.4.1.** Purchase and install 5 Met stations, 20 Met posts, and 10 Hydrological posts. **Indicator 3.4.2 (separated as an indicator):** Observation network of all hydrological and meteorological variables to provide an appropriate level of spatial resolution of these variables for early warning.	(HS) This element is very well advanced and nearly completed. It should be completed early in 2015 and is greatly appreciated by government ministry partners and the NEA. (See comment in Table 6 for suggested changes to indicators)	Project reports, Interviews with Project Manager, NEA staff, partner government ministries.
Output 3.5. Systems established at the national and sub-national level led by the NEA for long and short term flood forecasting of hydrological risks; including dissemination and communication of forecasts.	**Indicator 3.5.1.** A fully integrated flood early warning system (Deltares-FEWS) which links forecasting models to telemetered data as input and forecasting reporting and warning systems as output.	(MS) This is dependent on Output 3.2. This is an element that, while not far behind the programmed work plan, poses a major potential time challenge. It is complex and involves several actors and could easily fall behind schedule. It is obviously crucial and is an element that the Project Team and Board should monitor closely as it might require a project duration extension.	Project reports, Interviews with Project Manager, NEA staff, partner government ministries.
	Indicator 3.5.2. An early warning communication network using different communication links such as telephone trees, SMS and e-mail networks.	(S) This element is, according to the work plan, scheduled for 2015. However, some work has already started. The project telecommunications expert (within NEA) is working with the international FFEWS expert to identify requirements. The technologies that will be employed in the early warning system have been identified. All equipment has been purchased and is being installed. At municipality level there is little appreciation of how to operationalise these communications networks in a systematic way.	Interviews with Project Manager, Environment Ministry, Head of the Disaster Prevention and Planning Department, Ministry of Internal Affairs of Georgia and interviews with 6 municipalities.
	Indicator 3.5.3. GIS-based website for dissemination of hazard maps and associated information, such as hydrometeorological telemetric and Deltares-FEWS data to central and local government stakeholders.	This is scheduled for later so progress is not rated, though the building block components for this are lagging somewhat.	Project report (Jan-March 2014), interview with Project Manager and NEA staff.
	Indicator 3.5.4. A public-facing website presenting key layers of information, with the potential to disseminate early warning information to the public.	This is scheduled for later so progress is not rated, though the building block components for this are lagging somewhat.	Work Plan and interview with Project Manager.
	Indicator 3.5.5. Early warning awareness and training workshops for community, NGOs, government and media	This is scheduled for later so progress is not rated, though the building block components for this are lagging somewhat.	Work Plan and interview with Project Manager.

	representatives.		

** Word “access” inserted in Outcome Indicator 3.4.

*See Table 5 for suggested indicator wording revisions and reasons for suggested changes.

Key for colour coding:

Green	Completed, Highly Successful (HS). No shortcomings. Output achieved no shortcomings.
Turquoise	Satisfactory (S), well on track, still needs some work. Minor shortcomings to date.
Pink	Moderately Satisfactory (MS), broadly on track but some significant shortcomings.
Yellow	Moderately Unsatisfactory (MU). Some progress, but largely behind schedule. Corrective measures needed.
Grey	Unsatisfactory (U). Very limited progress. Component is way behind schedule and off-track. Urgent correction needed.
Red	Highly Unsatisfactory (HU), No perceptible progress and critical intervention required.

The project faces a number of challenges that have delayed parts of the implementation. These are summarised in the table below and suggestions for addressing them are made.

7.4 **Table (7) of Challenges & Suggested Responses:**

Challenge/Issue	Suggested Response	Supporting Evidence	Responsibility & Timing
Turnover of partner institution staff. There have been wholesale changes to municipality staff. This was identified as a risk in the Pro.Doc. and “Special training conditions and/or training for trainers will be arranged to keep the trained staff at the target Ministries. Staff retention and succession plans will be developed” was suggested as a mitigation strategy.	The challenge should be discussed with the partner institutions. There is no evidence of the suggested “staff retention and succession plans”. These should be pursued urgently. Another suggested strategy is to train two people (one at a lower level) for every strategic position and to look at broad engagement of several officials when working with municipalities. The project should also seek to build the capacity of local community member partners.	Reports from interviews with government partner institutions, municipalities and the Project Manager.	Project Management Unit to insert capacity building of key skills in all elements of the project. Specialists should be urgently contracted by the project to develop the staff retention and succession plans with the partner institutions. This should be commenced early in 2015, at least by the start of the second quarter.
Recruiting national builders to implement the traditional engineering interventions. The challenge resides in the fact that Georgian contractors experience capacity challenges in responding to the conditions associated with UNDP contracts and procurement requirements. This includes language, bank guarantees, H&S Insurance etc. When invitations to tender are issued, there is a very limited response.	One response to the challenge could be to facilitate possible partnerships between Georgian companies that might want to tender and companies from the region or other countries in the region who have appropriate experience of working on international contracts associated with flood prevention/mitigation engineering measures. Additionally, detailed training/briefing workshops could be held with targeted builders who could have the required capacity. The point is to schedule these responses well in advance to allow sufficient time for these extraordinary efforts.	Information received during interviews with the municipalities, the Project Manager and the Project Administrator.	Project Manager and Project Administrator with strategic assistance from the UNDP Georgia Country Office and the UNDP Regional Office. This could seriously delay the project and the suggested actions to address the challenge should be commenced immediately.
Sufficient advance work planning	The MTE Team has full confidence in	Interviews with	Project Administrator, Project

to address contracting in due time.	the PM, the Project Administrator, the Technical Advisor and the RTA. However, it is suggested that the matter of advance work planning to anticipate contracting challenges should be explored in detail with the UNDP Georgia CO and their efficient team with a view to guidance to allow sufficient time to accommodate the challenges.	RTA, Project Management Unit and UNDP CO members.	Manager UNDP Energy & Environment Team Leader to engage UNDP CO Team. This should be started immediately.
Additional, practical capacity building of officials using the new approaches and instruments.	The staff at NEA and a number of other government ministries expressed a desire for additional, formal and practical training and capacity building. Additional training and capacity building is envisaged by the project. This will include both on-the-job training and investigation of specialist tertiary level training attached to national and international universities. Training is also planned for municipal level people. The request for further training was, in two instances, coupled with a desire to have capacity tested. This appears to the MTE Team to be a reflection of insecurity and probably a response to previous training and capacity building that have not provided the trainees with confidence in their abilities.	Interviews with NEA staff as well as staff from three ministries and the municipalities.	Project Management Team to discuss, but MTE Team feels that the request for further training and the verification of abilities, should be responded to in a positive way. This should not be very expensive or burdensome.
Quality assurance process for technical documents revised to be more broadly inclusive. Currently, quality assurance is largely restricted to the very competent Project Technical Advisor and the Project Manager.	The MTE Team recommend that the Technical Advisor and the Project Manager, investigate the establishment of a process that will allow additional members of the partner organisations with technical capacity to review the reports produced for the project. Care will need to be exercised to ensure that this suggested inclusive process should not delay project implementation time schedules. However, the process could add value to the project products and contribute to capacity building.	Interviews with NEA, Project Manager and the RTA.	Project Manager with support from the Technical Advisor and key personnel in project partner organisations. This should be initiated in the first quarter of 2015.
One pilot community-based flood insurance scheme in place.	The MTE Team feels that this is a very valuable element of the project, but does with the current formulation, provide implementation timing challenges. The move to exploring catastrophe insurance is welcomed and instils more confidence that this can be met. There is a risk that government will not feel that the resources needed to subsidise the insurance is well directed. These should be added to the Risk Table and the MTE Team recommends altering the wording of the indicator ("designed" instead of "in place" in line with the recommendations in Table 5.	Discussions with Project Manager and government and analysis of insurance technical document.	Project Manager, Technical Advisor. This should be undertaken immediately.
Knowledge management/lessons	Clarify with the PMU what data needs	Interviews with	Project Technical Advisor,

learnt processes clarified, streamlined and producing the desired knowledge.	to be collected and the mechanism for this. Design process that encourages contribution from project partners and institutionalise regular reporting of lessons learnt before project board meetings. This should facilitate the regular collection and analysis of information that is required for the Results Tracker for Adaptation Projects, but also more fine-grained data that goes beyond these requirements. In summary a detailed M&E Plan that takes account of the investment and all components should be urgently developed.	Project Manager and UNDP CO.	PMU, UNDP, partner institutions. The process should be initiated at the beginning of 2015.

8. ADAPTIVE MANAGEMENT

8.1 Work Planning:

The project work plans are generally well articulated and this element appears to be very sound at present. This does not always appear to have been the case as anticipating possible delays were not always clearly prepared for. In fairness to the PMU, the sudden departure of a key consultant was a complicating factor. However, the project urgently needs to address the challenge relating to the contracting of builders to carry out the engineering works required. This is a major component of the project that needs attention. With foreknowledge of the UNDP contracting requirements, additional time should be allocated for exploring options that will allow Georgian builders to participate in the construction.

The project should also exercise flexibility in responding to the request from the NEA and other partners for additional, focused training and practical capacity-building support. This is something that can readily be addressed and is a major priority for country partners.

8.2 Finance and Co-financing:

The Project finances have been managed well. No significant issues are apparent to the MTE Team. This is confirmed by the results of the annual audit. The financial flows appear relatively smooth and effective and have not provided any major challenges to the project implementation over the last year-and-a-half. Early contractual issues did result in considerable delays, though these were overcome.

The co-financing of 3.2% is modest for the project. However, the Georgian Government is not really in a position to contribute to the co-financing and the UNDP TRAC contribution is important in the project context. This is the only co-financing and is easy to track because it is all dedicated to project management. The MTE Team can confirm that this co-financing is being contributed and utilised in line with the project work plans and as envisaged in the Project Document.

8.3 Monitoring Systems

The project M&E system is in line with standard UNDP procedures and requirements and is carried out by the Project team, verified by the Ministry of Environment Protection, NEA and MRDI and the UNDP

Country Office in Georgia. The Project Technical Advisor and the RTA paly an important role in the M&E and provide critical and regular input. This extends to quality control of the technical reports and papers produced for the project. However, a specific M&E Plan that includes the monitoring of the investment component.

A project inception workshop was conducted and included all key stakeholders and role players. The MTE Team had a clear sense during the interviews with national partners that they had a strong sense of ownership of the project. Several informants noted that this was not the case for several other projects. This is an important element that can contribute to the long-term sustainability of the project and should be strengthened through having the key partners play a larger role in the quality control of technical papers and through responding to their requests for additional training/capacity building.

The Quarterly Progress Reports that are linked to the meetings of the Project Board, appear to be working well, are held regularly and provide clear feedback to Board members. This facilitates effective project oversight. The Annual Project Reports consolidate and enhance the quarterly reports and assist in taking stock of project progress. This report is complemented by the Annual Financial Audit Report which has been positive.

This Mid-Term Evaluation will also play an important role in providing guidance to the project implementation and is in line with the M&E plan for the project.

Linked to the M&E is the issue of knowledge generation and knowledge management. This forms a specific output of the project, Output 2.4. Attention needs to be given to the mechanisms for collecting and analysing data relevant to the project. If possible, the project partners at all levels should be brought in to the process to enrich the quality of information and the analysis of data. The Project Manager, the Project Administrator and key partners should be encouraged to regularly (monthly for the PMU and the Technical Advisor) record and describe particular issues, challenges, successes and 'eureka' moments. This could allow a far richer recording of lessons learnt than only noting elements that link to the output indicators.

8.4 Risk Management:

The MTE Team feel that this element could be strengthened. A number of anticipated risks have been realised and have not been entirely suitably addressed and a number of new risks have emerged. These are summarised in the table below, along with suggested changes.

Suggested Revised Risk Log Table (8):

No	Risk	Classification	Possible Measures for Addressing the Risk
1	Unforeseen delays in undertaking essential surveys due to weather/access issues etc.	High	Surveys to be scheduled to maximise favourable weather conditions. Early reconnaissance visits to remote areas will determine potential access difficulties. Issues/Risks will be raised to the PEB and adequate mitigation measures will be discussed/approved by PEB and implemented.

2	Adverse climatic conditions may also pose risks to workforce health and safety, or damage adaptation measures being implemented	High	The project will draw up an engineering and safety plan to reduce immediate risks of hazard occurrence during works. Health and safety precautions for the workforce will be established in the inception phase, drawing on lessons from other high altitude projects. Contingency and evacuation plans will be prepared. All sub-contracted firms will need to have H&S insurance for its employees.
3	Resistance of certain government institutions to introduce floodplain development policy that sets number of land use limiting regulations and floodplain zoning rules.	Medium	Bottom-up approach to the policy development with active engagement of local population and authorities will enable the project to follow the principles of subsidiarity and participation underlined in the Regional Development Strategy and help local authorities make decentralised climate compatible development decisions. Engagement of the Regional Development and Infrastructure Ministry will help the flood plain policy to emerge in full consistency with the development priorities that will be supported to embark on climate resilient pathway.
4	Lack of incentives for particular local communities to cooperate in activities that do not yield immediate financial value, but aim at longer-term resilience, may reduce stakeholder engagement and comprehensive participation.	Medium	The project incorporates activities that yield immediate benefits for communities in terms of awareness, preparedness, skill development and income generation (employee guarantee scheme). This will be emphasized during all meetings and consultations with community representatives during the inception phase
5	Due to staff turnover at the target Ministries the trained staff may leave for the other job opportunities undermining installed technical capacity	Low	Special training conditions and / or training for trainers will be arranged to keep the trained staff at the target Ministries. Staff retention and succession plans will be developed
6	Delays in recruitment of qualified project staff may affect the timeframe of different project activities.	Low	A pro-active coordination mechanism will be established by UNDP during the project inception phase. TORs for project staff will be prepared immediately after project endorsement by the AF Board.
7	Changes in the government structures and functions of the Min of EP.	Low	Inception workshop will be used to confirm institutional mechanism for project implementation. Inception report will be used to reflect any changes or amendments as required. Closely monitor situation and keep regularly updated on any developments in this regards; call immediately PEB meeting.

8.	UNDP Contracting procedures and requirements inhibit local builders (service providers) to the extent that few, if any national service providers can be contracted.	High	Look to facilitate partnerships between Georgian builders/service providers and experienced builders/service providers from neighbouring countries. Additional measures could include holding information and orientation workshops with targeted potential service providers to assist them in responding to the opportunities. However, this could result in delays and might contribute to the need for a no-cost project extension of one year. However, given the importance of building local capacity, this should be seriously considered.
9.	Turnover in partner institutions (like municipalities) related to political changes results in delays through having to re-engage with these partners and re-brief key officials.	High	Project should openly discuss this risk with partners and look at training of more than one person for each key position/function.
10.	There is a risk that the Government of Georgia will not see the catastrophe insurance scheme as sufficiently high on its agenda to provide the necessary support funding.	Moderate	The project should work to quantify the advantages of the scheme for the government and lobby for the importance of support investment from the government.

8.5 Reporting:

Except for the comments relating to knowledge management in 8.4 above, the MTE Team feel that this element has been adequately addressed. The reporting appears to be regular and of good quality and depth.

9. Management Arrangements

The project is Nationally Implemented in line with the Standard Basic Assistance Agreement and the UNDAF for 2011-2015. The UNDP is the Multilateral Implementing Entity for the project.

The Ministry of Environmental Protection (MoEP) is the government institution that is the Implementing Partner/Executing Agency (EA) for the project. The project is implemented through MoEP's National Environment Agency (NEA)3. While NEA is responsible for overall project implementation and is the project executing entity, the Ministry of Regional Development and Infrastructure (MRDI) is a major partner under components 1 and 2. The MRDI addresses floodplain development policy to improve long term resilience to flood/flash flood risks and introduce flood direct measures of long term flood prevention and risk mitigation. The MRDI is responsible for infrastructure rehabilitation and construction in all regions of Georgia, including river bank protection measures (mainly structural).

NEA's role in the framework of the project is fully in line with its leading institutional role in climate resilient flood management. MRDI is a responsible for infrastructure development in the country and

[3] NEA is a Legal Entity of Public Law under the Ministry of Environment Protection

therefore is a critical partner of the project as described above, but it is not charged with the tasks for flood management. NEA as a part of the Ministry of Environment Protection has been established by the consolidation of key state departments, such as Department of Hydrometeorology, Geological hazards management, Environmental Pollution Monitoring and Environmental Protection Information Service. NEA is responsible for the provision of key technical inputs, collection and analysis of hydro-meteorological and geological monitoring data, including medium-and long-term forecasting for further processing by relevant sectorial ministries and state entities. NEA also carries out EIAs or technical review-based clearances on parameters and locations for any infrastructure projects.

It is clear that the NEA is the appropriate institutional base for this project.

The Project is overseen by the Project Executive Board. This Board has representation from UNDP as the Implementing Entity, the Ministry of Environment and Natural Resources Protection (MoENRP), the NEA, Ministry of Regional Development and Infrastructure (MRDI), the Ministry of Internal Affairs (specifically the Disaster Prevention & Planning Department) and the representatives of the six collaborating municipalities Ambrolauri, Oni, Lentekhi, Tsageri, Tskaltubo and Samtredi. The USAID also has representation on the Board. Coordination appears fairly effective and the institutions appear clear about roles and responsibilities. Board minutes are clear and procedures followed.

The UNDP has provided effective support to and oversight over the project. The UNDP CO team is vitally involved in the project and the Environment and Energy Portfolio Team Leader has made a very positive contribution in guiding the PMU. The broad oversight has rested with the Country Office DRR and ARR. This provides several levels of checks and balances and this has been clearly reflected in the institutional management of the project. Technical backstopping from the RTA and the Project Technical Advisor has also contributed to the success of the project to date and the quality of the reports and work produced. The project has been well served by the UNDP provided back-up. This has been well-complemented by the level of commitment of key project partners who have been keen to learn and to participate.

10. CONCLUSIONS, RECOMMENDATIONS & LESSONS

At the time of the MTE Report, the project is broadly 'on-track' and has been rated as Marginally Satisfactory (MS). It has been well managed, though a number of challenges require attention if the project is to be successful.

This is an important project that is well-based upon Georgian national priorities. It is clearly in line with both national and global (AF) priorities. It is relevant to the Georgian situation and addresses the AF priorities. The project design is generally good and the project is accepted and endorsed by the key partners who recognise its importance. The combination of technical work, new technologies and instruments, with practical on-the-ground implementation is greatly appreciated by all the partner agencies, government ministries, provincial authorities and NGOs. The project implementation has generally been good, though earlier delays and the changes in project administration have resulted in delays. The technical support provided to the project, the Project Manager and the Project Administrator, by the RTA, the Project Technical Advisor and the UNDP Country Office in Georgia appears very positive and of high quality. The Project Manager and the Project Administrator appear

very competent and their work is highly appreciated by the partner agencies, the municipalities, government ministries, etc. The project has thus, been very effective and has addressed the most vital issues in an efficient way.

While, as mentioned above, this project is broadly on track with progress towards achieving the project objective and outcomes, progress towards only 3 of the 8 outcome indicators and 5 of the 20 output indicators have been less than satisfactory, in all instances moderately satisfactory (MS). These are the elements that require attention and are highlighted in Table 6. In summary, the project is doing very well on technical design aspects, but slightly less well on actual implementation where it faces implementation challenges that are often beyond the immediate control of the project. The project will need to finesse these implementation elements of the project and should seek to identify local champions to support them in this. The MTE Team recommends a number of minor revisions to the logframe, particularly to the wording of the output indicators (outlined in Table 5). In addition, many key project partners are not clear about the mechanism for collecting specific evidence required to track progress against the project objective: "To improve resilience of highly exposed regions of Georgia to hydro-meteorological threats that are increasing in frequency and intensity as a result of climate change" and output indicators: 2.2 "% of population with improved water management practices resilient to climate change impacts in the targeted regions"; 3.1 "Flood forecasting and early warning systems introduced to benefit over 200,000 people at risk in the Rioni basin from flood, flash flood and landslide risk in the basin"; and % of targeted population with more access to early warning in the face of climate change. For the higher level indicator, the MTE suggest that the project look at the ICF indicators. These could inform and concretise the indicators and provide some guidance as to collecting the verification data. The MTE Team is prepared to make suggestions regarding mechanisms (methodologies) for systematically collecting the data.

The slow progress against Outcome 2 "Direct investments and local actions in highly exposed and vulnerable communities improve flood management practice on 8,400km^2 and build resilience of 200,000 people" will require particular focus during the remainder of the project as it constitutes a very important contribution to the achievement of the project objective "To improve resilience of highly exposed regions of Georgia to hydro-meteorological threats that are increasing in frequency and intensity as a result of climate change." The project is currently experiencing difficulty in concluding contracts with national builders to undertake the engineering works required to provide protection against flooding. This is posing a threat to the timely delivering of this vital protection. The national builders struggle to meet several of the requirements associated with UNDP contracts and procurement procedures. They have capacity constraints relating to some of the technical work itself, the English language medium, the provision of bank guarantees, Health and Safety Insurance and other elements. The MTE Team recommends that the procurement process be carefully planned in advance with the UNDP CO Team and that the possibility of pairing Georgian builders with companies from neighbouring countries that have experience of implementing similar projects. The identification of appropriate translators could also assist national builders. The concern about national builders and specialists having a chance to undertake the project work was also raised at municipal level (Ambrolauri). The project could also explore convening short workshops that address the challenges of the procurement procedures and assist specially targeted national builders to address these challenges. Building local capacity is crucial for the long-term sustainability of the initiatives of the project.

The implementation of the enhanced land-use regulations and building codes for improved resilience is likely to be very challenging and might take longer than anticipated. Designing the elements components is a challenge, but certainly achievable. Piloting the components through all the necessary regulatory processes within the currently scheduled project duration is likely to prove a major challenge. Having these changes actually implemented during the currently scheduled project duration is an even greater challenge. The MTE Team recommends a revision of the output indicator wording for these and the setting of more realistic targets. In addition, the concentration of efforts on these elements should be prioritised and the possible need to apply for a 'no-cost' project extension of one year must be anticipated. The extension should not be viewed as an opportunity to slow the rate of activity and delivery, but should rather be viewed as providing additional time to meet the key outputs and outcomes with a view to realising the project objective.

A major theme that emerged during the interviews with project partners was the quality of research, technical papers and any construction undertaken. Several respondents noted that they had experience of inferior quality work in the past and that this was an element that they particularly appreciated in the project. Clearly the level of product – whether plans, maps or physical structures on the ground, needs to be maintained. This concern for quality is clearly also related to the request from NDA and others for further training and capacity building with the new methodology and software that the project has helped to purchase. A number of the NDA staff were so concerned about this that they not only requested more intense further training, but specifically wanted a process that included the testing of the practical capacity that they developed from the training to ensure that they had the requisite and usable competency. The Project capacity building/training planning clearly addresses several levels of training and includes specialist tertiary level training as well as training for municipalities but the MTE Team still recommends that the request for training and capacity assessment (testing) be taken seriously and that, if necessary, project funds should be re-allocated to address it, or additional funding should be sourced. The request appears to largely stem from a lack of confidence and it should not be very expensive or taxing to address this.

The completion of the digitization of the historic/long-term data records of the Rioni River Basin was noted by a number of respondents as a key achievement that is already playing an important role in efforts to map vulnerable areas and to put reaction plans in place. The completion of the geological hazard maps has also been seen as a significant achievement as it will greatly assist in addressing the threat of landslides. The Dam Safety Report has been well received by partners and key stakeholders.

Socio-economic reports on a total of 18 municipalities have been produced. This is an important achievement as it lays part of the basis for planning and for the calculation of the most vulnerable communities. This work goes beyond the 6 pilot municipalities and will assist in the rolling-out of the process to areas beyond the current project scope. This is clearly in line with the project objective.

The partner institutions have expressed appreciation for the role played by the Project Manager and his approach and engagement with them. The Project Management Unit, with the assistance of the Technical Advisor, the RTA and the UNDP Georgia CO, appears to be coping with the demands made on it. The MTE Team do not feel that additional staff members need to be recruited to the PMU. The streamlining of procurement procedures and the greater inclusion of project partners in the project activities and processes, as outlined in the section above, is seen as the way forward. The key element is

to contract competent and professional service providers in a timely fashion and to harmonise the many products generated to contribute to the desired outputs in an efficient manner.

The project budget has been well managed with absolutely no signs of any major problems. The contracting delays relating to UNDP procurement requirements and the particular set of circumstances in Georgia aside, the project has been well run. The current PMU, with the oversight of the UNDP Georgia CO and the Project Board appears to be working well. Expenditure to date has been slightly slower than anticipated, but is not yet lagging far behind the anticipated level. If the project realises the projected expenditure of the Revised Budget Revision of August 2014, something that the MTE Team doubts, then by the end of the year the project will have spent 58.6% of the overall project budget. If one takes the six month delay that occurred at the beginning of the project, this level of expenditure is no cause for concern. The same is true for projected expenditure for each of the components. Expenditure on Component 1 Flood Plain Development Policy Framework will be at 93% of the total budget for this component at the end of 2014. This is very much in line with expectations. Expenditure on Component 3 Flood Early Warning will stand at 86.3% of the total amount in the original budget for this component at the end of 2014, if the projected costs to the end of 2014 are indeed realised. This, too, would be very much in line with expectations and reflect a good rate of expenditure. This all assumes that the real rate of expenditure during the remaining weeks of 2014 will be in line with the projections. However, the MTE Team feel that the projections are optimistic and challenges relating to the conclusion of building contracts to undertake works, already indicate that there will be delays which will translate into very considerably lower expenditure. As this component is a large part of the budget, it will have a dramatic impact upon the overall rate of expenditure for the project.

Component 2 Flood Management Practices will, according to current projections (revision August 2014), spend a cumulative total of $1,282,544 of the total component amount of $2,900,000, by the end of 2014. This constitutes 44.2%. Because of the large allocation for this component (57.3% of the total project budget) and the slightly slow rate of expenditure, combined with the contracting challenges being experienced there is concern that it impacts considerably on the overall rate of expenditure. Every effort needs to be made to address the challenges with Component 2, but this component alone, probably warrants a no-cost project extension. Streamlining the contracting processes and exploring options like partnerships between national and experienced companies from neighbouring countries with similar conditions, is one possible way forward.

The fourth budget component is associated with Project Management. This budget component is not directly associated with any one of the outcomes or outputs, but contributes to all. The total budget allocation for Component 4 is $490,000. Surprisingly, only $198,404 will have been spent by the end of 2014. This comprises 40.4%. This implies that there is sufficient funding in this component to carry the costs of management for an additional year if the decision is made to go for a ‘no-cost’ project extension.

Against originally projected expenditure for the end of 2014, there has been an ‘under-spend’ of $681,648 (if one accepts the projected expenses from August to December 2014). However, when one factors in the MTE Team opinion that the projected expenses from August to December 2014 are optimistically high, this figure is likely to be much higher. This is another indication that the no-cost extension of the project is possible and desirable.

The co-financing of $160,000 from UNDP TRAC funds constitutes 3.2% of total project funding. It is easily tracked and verified as it is totally dedicated to the management component. The MTE Team confirm that the committed co-funding has, indeed, been expended for this purpose.

While the MTE Team do not lightly or too readily recommend a 'no-cost' extension of the project, we feel that, if the project desperately chases the current project timelines, it could have a negative impact upon the quality of the work and some of the desired outcomes and potential opportunities. For example, if the time pressure simply leads to the appointment of foreign contractors, an opportunity would have been lost to build the capacity of Georgian firms, with consequent impact upon the long-term sustainability of initiatives and the optimization of the roll-out process. Ideally, local firms should gain capacity through the project to undertake similar and broader projects. This is one of the main factors behind the recommendation of the MTE Team that a 'no-cost' extension of one year be considered.

The MTE Team recommends that an emergency simulation 'dry run' using all parties to respond to an 'emergency' be implemented before the end of the project. While emergency response is not the specific focus of this project, rather the mitigation of emergencies and the early warning of these, it would clearly indicate the level of preparation and integration of systems to address the project objective. This should be undertaken under the leadership of the Disaster Prevention and Planning Department, Ministry of Internal Affairs of Georgia. Despite going beyond the specific project remit, this would be a genuine 'reality test' of the elements of the project and their integration into broader national processes.

A number of important lessons have emerged from the project implementation to date. These include:

- The importance of advance planning for activities like the contracting of builders to undertake engineering works for the project. The procurement process is complex and should be initiated well in advance of target dates, to allow for possible delays and complications such as some unexpected ones like the difficulty in getting national builders to meet the procurement requirements.
- A good PMU is crucial to the success of a project. If the team members are not competent and committed, the project will suffer.
- The 'style' of the Project Manager's interaction with key partners and other stakeholders is crucial in obtaining their active collaboration and investment. This will have an important bearing on the sustainability of the project outcomes in the long run as it contributes in a major way to the sense of ownership of the project by key partners.
- When providing technical training/capacity building and/or engaging with decision makers, it is important to try to include a number of functionaries and not just one. This provides some protection against the challenge of people leaving their positions and being replaced by newcomers.
- The quality of training/ capacity building and of tangible works on the ground is very important. The opinions expressed by many respondents during the fieldwork, clearly emphasised the importance of this. Many were very cynical of the efforts of earlier projects because of what was perceived as being of poor quality.

- Requests for additional capacity/training by key project partners should be taken very seriously and responded to positively if at all possible. If necessary, additional resources should be sought.
- Delays at the inception or early stages of the project can be very difficult to overcome and are likely to require a project extension.
- When specific service providers are being contracted to undertake crucial elements of work for the project, it is advisable to maintain a good relationship with the candidates who were not finally selected to undertake the work. This could assist in rapidly contracting them if the selected contractor lets the project down, as happened in this project. Maintain the data base of professionals who could undertake the work.

The evidence underpinning the conclusions and the related recommendations made in this section is reflected in the Evaluation Rating Table.

The request for additional training by NEA personnel relates to sustainability and is a very good indication that the NDA will take ownership of the project products at the conclusion of the project. The fact that they are anxious about their capacity to continue the work of the project clearly indicates that they are intent upon driving the project forward. This provides a high degree of comfort regarding the future sustainability of the intervention. Other participating institutions also expressed sentiments that reflected their sense of ownership of the project. Efforts to capacitate them further in line with their future roles, should be vigorously pursued according to the project capacity building plan. At this early stage, the MTE Team are confident that most elements of the project, with the exception of the two components listed above, will be sustainable. The long-term impact of the project is difficult to assess at this stage, but a high degree of local ownership at all tiers of authorities in Georgia will certainly play an important role in shaping the impact.

Table 9: Summarised Recommendations:

Thematic Area	Recommendation	Responsibility & Timing
Project Design	Revisions to logframe output indicators in line with the changes suggested in Table 5.	Project Management Team by end of 1st quarter of 2015.
Administration & project management	Measures to address the challenge associated with the procurement of national service providers (like builders) should be implemented as soon as possible. These could include: The possible pairing of targeted national service providers with experienced service providers from the region; pre-targeting of potentially qualified national service providers and holding short information workshops that address UNDP procurement requirements and other elements linked to the work; and the very advanced planning of activities by the PMU to allow for the delays and allow sufficient time for the workshops and support processes.	PMU by early in 2015.
Project Management	Urgently develop an M&E Plan for the project that covers all elements including the investment elements.	Project Manager with support from Project Management Team, asap, but certainly by end of 1st quarter 2014.
Project Management	Involve wider range of key partners more directly in the assessment of technical documents produced for the project. This could be approached	Project Manager with support from the Project

	through short, focused workshops (after circulation) that cover the technical reports.	Management Team. Process should be in place by end of 1st quarter of 2015.
Adaptive management intervention	In addition to the already envisaged training/capacity building planned for 2015, an additional capacity building/training effort for key project partners that includes an assessment element to build confidence.	Project Management Team by 2nd quarter of 2015.
Adaptive management.	Risk log needs to be updated and consideration given to the suggestions made in Table 8.	Project Management Team.
Project Implementation	The main challenge facing the project relates to on-the-ground implementation. Therefore recommend identifying and supporting a highly regarded local project 'champion' to promote the project and its activities at local (municipal) level.	Project Manager by end of 1st quarter 2015.
Project implementation	Recommend a "dry run" simulation of a crisis that will test all elements of the system that the project is contributing to. This will clearly address integration and demonstrate the real utility of the products developed through the project.	PM supporting the coordination of the Disaster Prevention and Planning Department, Emergency Management Agency of the Ministry of Internal Affairs of Georgia. This should only be conducted towards the end of the project implementation period.

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11. ANNEXES

Annex 11.1 ToRs For the MTE

Terms of Reference

Project Title:	UNDP/AF project "Developing Climate Resilient Flood and Flash Flood Management Practices to Protect Vulnerable Communities of Georgia "
Location:	Home based with one mission to Georgia
Type of Contract:	Individual Contract (IC)
Position:	International Evaluator, Team Leader
Starting Date:	7 November 2014
End Date:	20 December 2014

1. INTRODUCTION

In accordance with the UNDP and AF M&E policies and procedures, a mid-term evaluation of the full-size project "Developing Climate Resilient Flood and Flash Flood Management Practices to Protect Vulnerable Communities of Georgia" implemented through the UNDP is to be undertaken in the year 2014. The project started on 01.07.2012 and is in its 3rd year of implementation. This Terms of Reference (TOR) sets out the expectations for this mid-term evaluation. This TOR also sets out the scope of work, deliverables, timeframe and payment terms for International Evaluator, Team Leader.

The essentials of the project to be evaluated are as follows:

Project Title:	**"Developing Climate Resilient Flood and Flash Flood Management Practices to Protect Vulnerable Communities of Georgia"**			
UNDP Project ID:	00076540	**Project financing**	*at endorsement (Million US$)*	*at MTE (Million US$)*
ATLAS Project ID:	00060698	AF financing:	US$ 4,900,000	
Country:	Georgia	IA/EA own:		
Region:	South Caucasus and Western CIS	Government:		
Focal Area:	Tbilisi	Other (UNDP):	US$ 160,000	
		Total co-financing:		

Executing Agency:	Ministry of Environmental Protection of Georgia through the National Environmental Agency (NEA)	Total Project Cost **in cash**:	US$ 5,060,000	
Other Partners involved:	Ministry of Infrastructure and regional development (MRDI); Emergency Management Department; Pilot municipalities.	ProDoc Signature (date project began):		Date: 11 June 2012
			Planned closing date: July 2016	Revised closing date:

2. PROJECT BACKGROUND INFORMATION AND OBJECTIVES

The project objective is to improve resilience of highly exposed regions of Georgia to hydro-meteorological threats that are increasing in frequency and intensity as a result of climate change. The project will help the governments and the population of the target region of Rioni Basin to develop adaptive capacity and embark on climate resilient economic development. The project is comprised of three main components:

1. Floodplain development policy introduced to incentivize long term resilience to flood / flash flood risks;

2. Climate resilient practices of flood management developed and implemented to reduce vulnerability of highly exposed communities;

3. Early warning system in place to improve preparedness and adaptive capacity of population.

3 outcomes will contribute to this objective:

PROJECT COMPONENTS	EXPECTED CONCRETE OUTPUTS	EXPECTED OUTCOMES

1. Floodplain development policy introduced to improve long term resilience to flood / flash flood risks	1.1. Hazard and inundation maps produced; 1.2. Reviewed and changed land use regulations (land use planning, including zonings and development controls, e.g. on protection / buffer zones, settlement expansion; economic development categories etc.) to internalize climate change risks into floodplain management and spatial planning. 1.3. New building codes reviewed and streamlined for the housing rehabilitation schemes to flood proof new buildings (e.g. material standards, traditional house raising etc.) taking into account alternative climate change scenarios; 1.4. Targeted training of national and local authorities responsible for climate risk management in advanced methods of forward looking climate risk management planning and flood prevention measures; 1.5. Community-based flood insurance scheme designed and implemented covering highly exposed villages under 6 municipalities.	Floodplain development policies in place to minimize exposure of highly vulnerable people of Rioni river basin to climate change induced flood risks.
2. Climate resilient practices of flood management developed and implemented to reduce vulnerability of highly exposed communities	2.1. Direct measures of long term flood prevention and risk mitigation designed with participation of local governments and population in 6 municipalities (Lentekhi, Oni, Ambrolauri, Tskaltubo, Samtredia, Tsageri); 2.2. Community-based adaptation measures, such as bank terracing, vegetative buffers, bundles and tree revetments implemented building on an existing municipal employment guarantee scheme; 2.3. Flood plain seasonal productive systems (e.g. short season annual cropping, cattle rearing plots or seasonal pastures, agro-forestry) benefit 200,000 people and improve resilience to flood threat; 2.4. Lessons learned and best practices documented and disseminated to raise awareness of effective climate risk management options for further up-scaling;	Direct investments and local actions in highly exposed and vulnerable communities improve flood management practice on 8,400km^2 and build resilience of 200,000 people

3. Early warning system in place to improve preparedness and adaptive capacity of population	3.1. Long term historical observation data digitized and used in policy formulation and risk management practices; 3.2. Multi hazard risk assessment for the Rioni river basin (floods, flash floods, associated mudflows and landslides, linked with climatic alterations under alternative scenarios); 3.3. Series of targeted training delivered for the NEA staff and partner organizations in the advanced methods of climate change risk assessment and forecasting; 3.4. Essential equipment to increase monitoring and forecasting capabilities in the target basin procured and installed; 3.5. Systems established at the national and sub-national level led by the NEA for long and short term flood forecasting of hydrological risks; including dissemination and communication of forecasts.	Institutional Capacity developed for early warning and timely alert communication to vulnerable communities of the Rioni river basin

3. OBJECTIVES OF THIS MID-TERM EVALUATION (MTE)

The objective of the MTE is to provide an independent analysis of the progress of the project so far. The MTE will also identify any project design issues, evaluate progress towards the achievement of the project objective, identify and document lessons learned (including lessons that might improve design and implementation of other UNDP supported AF projects), and make recommendations regarding specific actions that should be taken to improve the project implementation. The MTE will evaluate early signs of project success or failure and identify the necessary changes to be made. The project performance will be measured based on the indicators of the project's logical framework **included in this Terms of Reference.**

The evaluation is focused on a comprehensive project assessment and provides a critical evaluation of administrative and technical strategies, problems and restrictions associated with the large-scale international and multilateral initiatives. The evaluation shall also provide the recommendations in relation to the strategies, approaches and/or activities in order to enhance the project capacities of achieving the expected outcomes. The evaluation results will be incorporated in the recommendations to improve the implementation of a given project stage in the forthcoming years.

The MTE must provide evidence based information that is credible, reliable and useful. MTE will be conducted by the Evaluation Team consisting of International Evaluator, Team Leader, who will lead the evaluation process and National Consultant, Team Member, who will assist and provide necessary technical support to the Team Leader. The evaluation team is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, UNDP Country Office, project team, UNDP-AF Regional Technical Adviser based in the region and key stakeholders. The evaluation Team Leader is expected to conduct field missions to Georgia (Tbilisi and project target municipalities: Oni, Ambrolauri, Lentekhi, Tsageri, Tskaltubo and Samtredia). Team Leader should be

accompanied by the National Consultant in field visits in project municipalities. Interviews will be held with the following organizations and individuals at a minimum:

1. UNDP Country Office management and relevant Programme staff
2. UNDP/AF project staff;
3. Executing agencies (NEA)
4. National Project Director and relevant staff of MoENRP, MRDI and NEA
5. Project Board members and partners: Emergency Management Department, USAID project IWRM, Target municipalities.

The team will evaluate all relevant sources of information, such as the project document, project reports – including Annual PPRs, AF Tracking Tools, project budget revisions, progress reports, project files, national strategic and legal documents, and any other materials that the team considers useful for this evidence-based evaluation. A list of documents that the project team and UNDP Country Office will provide to the team for review is **included in this Terms of Reference.**

Purpose:

(i) To evaluate the overall project activities in relation to the objectives and expected outcomes as stated in the project document and the other related documents

(ii) To evaluate the project effectiveness and cost-efficiency

(iii) To critically analyze the arrangements of project management and implementation

(iv) To evaluate the progress attained so far in relation to the project outcomes

(v) To investigate the strategies and plans intended for the timely achievement of the overall project goal

(vi) To list and document the first lessons learned in respect of the project design, its implementation and management

(vii) To assess the sustainability of project interventions;

(viii) To assess the relevance in relation to the national priorities

(ix) To provide the recommendations for the future project activities and, where necessary, for the project implementation and management arrangements.

In particular, the mid-term evaluation exercise will assess the progress of creating the basic information, alleviation of threats and identification of any constraints to the project implementation and their causes. It intends also to provide the recommendations for corrective measures to be undertaken.

The mid-term evaluation report shall be a separate document which will contain the recommendations and conclusions.

The report will be intended to meet the needs of all the related parties (AF, UNDP, project partners, local communities and other related parties in Georgia and foreign countries).

4. SCOPE OF WORK AND DUTIES AND RESPONSIBILITIES FOR TEAM LEADER

Team Leader will evaluate the following three categories of project progress. For each category, Team Leader is required to rate overall progress using a six-point rating scale outlined and included in this Terms of Reference.

4. 1 Progress towards Results

Project design:

- Evaluate the problem addressed by the project and the underlying assumptions. Evaluate the effect of any incorrect assumptions made by the project. Identify new assumptions.
- Evaluate the relevance of the project strategy and whether it provides the most effective route towards expected/intended results.
- Evaluate how the project addresses country priorities.
- Evaluate the baseline data included in the project results framework and suggest revisions as necessary.

Progress:

- Evaluate the outputs and progress toward outcomes achieved so far and the contribution to attaining the overall objective of the project.
- Examine if progress so far has led to, or could in the future catalyse, beneficial development effects (i.e. income generation, gender equality and women's empowerment, improved governance etc...) that should be included in the project results framework and monitored on an annual basis. Suggest measures to improve the project's development impact, including gender equality and women's empowerment.
- Examine whether progress so far has led to, or could in the future lead to, potentially adverse environmental and/or social impacts/risks that could threaten the sustainability of the project outcomes. Are these risks being managed, mitigated, minimized or offset? Suggest mitigation measures as needed.
- Evaluate 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, and how the different needs of male and female stakeholders has been considered. Identify opportunities for stronger substantive partnerships.

4. 2 Adaptive management

Work Planning

a) Are works planning processes result-based? If not, suggest ways to re-orientate work planning to focus on results.
b) Examine the use of the project document logical/results framework as a management tool and evaluate any changes made to it since project start. Ensure any revisions meet UNDP-AF requirements and evaluate the impact of the revised approach on project management.

Finance and co-finance:

a) Consider the financial management of the project, with specific reference to the cost-effectiveness of interventions.
b) Complete the co-financing monitoring table **included in this Terms of Reference.**
c) Evaluate the changes to fund allocations as a result of budget revisions and the appropriateness and relevance of such revisions.

Monitoring Systems

a) Evaluate the monitoring tools currently being used: Do they provide the necessary information? Do they involve key partners? Do they use existing information? Are they efficient? Are they cost-effective? Are additional tools required?
b) Ensure that the monitoring system, including performance indicators meet UNDP-AF minimum requirements. Develop SMART indicators as necessary.
c) Ensure broader development and gender aspects of the project are being monitored effectively. Develop and recommend SMART indicators, including sex-disaggregated indicators as necessary.
d) Examine the financial management of the project monitoring and evaluation budget. Are sufficient resources being allocated to M&E? Are these resources being allocated effectively?

Risk Management

a) Validate whether the risks identified in the project document, PPRs and the ATLAS Risk Management Module are the most important and whether the risk ratings applied are appropriate and up to date. If not, explain why. Give particular attention to critical risks.
b) Describe any additional risks identified and suggest risk ratings and possible risk management strategies to be adopted

Reporting

a) Evaluate how adaptive management changes have been reported by the project management, and shared with the Project Board.
b) Evaluate how lessons derived from the adaptive management process have been documented, shared with key partners and internalized by partners.

4. 3 Management arrangements

a) Evaluate overall effectiveness of project management as outlined in the project document. Have changes been made and are they effective? Are responsibilities and reporting lines clear? Is decision-making transparent and undertaken in a timely manner? Recommend areas for improvement.
b) Evaluate the quality of execution of the project Implementing Partners and recommend areas for improvement.
c) Evaluate the quality of support provided by UNDP and recommend areas for improvement.

5. MID TERM EVALUATION DELIVERABLES FOR TEAM LEADER

Deliverable	Content	Timing	Responsibilities
Inception Report	clarifies timing and method of evaluation	No later than 1 week before the evaluation mission	submits to UNDP Country Office
Presentation	Initial Findings	End of evaluation mission	To project management and UNDP Country Office
Draft Report	Full report **(template included in this Terms of Reference)**	Within 2 weeks of the evaluation mission	Sent to UNDP CO, reviewed by RTA, ICTA
Final Report	Revised report with audit trail detailing how all received comment have (and have not) been addressed in the final evaluation report).	Within 1 week of receiving UNDP comments on draft	Sent to UNDP CO

The key product expected from this mid-term evaluation is:

The Mid-term Evaluation Report
The mid-term evaluation report will include:

- The facts and conclusions identified in respect of the issues to be reviewed in accordance with The Scope of Evaluation section
- Evaluation of project impact on:
  - The institution assisted and its staff;
  - The final beneficiaries including specific groups;
- Project sustainability on the basis of:
- The commitments of the governmental agencies in relation to the project objectives
- Involvement of local organizations (participatory process)
- Management and organizational factors
- Financing
- Staff development
- Recommendations for the future implementation of the project activities
- Lessons learned

The draft and final report will be prepared in the format **as provided as a template included in this Terms of Reference** hereto. The draft report will be presented to UNDP/AF not later than **2 December 2014**. The final report will be prepared on the basis of the comments to be obtained from the parties related. The deadline for the final report is **20 December 2014**. The report will be presented electronically and in hard copy, in English, and will be translated by the project into Georgian language for distribution to national counterparts.

6. IMPLEMENTATION ARRANGEMENTS

The principal responsibility for managing this evaluation resides with the UNDP Country Office (UNDP CO) in Tbilisi, Georgia. The UNDP CO will contract the consultants and ensure the timely provision of travel costs and travel arrangements within the country for the evaluation team. The project team will be responsible for liaising

with the evaluation team to set up stakeholder interviews, arrange field visits with missions to Tbilisi, Georgia including the following target municipalities in Rioni river basin: Oni, Ambrolauri, Tsageri, Lentekhi, Tskaltubo and Samtredia.

7. TIMEFRAME FOR TEAM LEADER

The total duration of the evaluation will be 25 working days in the period of **7 November – 20 December 2014** according to the following plan:

Activity	Timeframe
Preparation	*(7-11 November 2014 period) (3 workdays)*
Evaluation mission and debriefing	*(12-20 November 2014 period) (7 workdays)*
Draft evaluation report	*(21 November - 2 December 2014) (10 workdays)*
Finalisation of final report	*(no later than 20 December) (5 workdays)*

8. TEAM COMPOSITION

Evaluation will be undertaken and led by one independent International Evaluator, Team Leader and will be assisted by the National Consultant, Team Member. The consultants will not have participated in the project preparation and/or implementation and should not have conflict of interest with project related activities.

Objective: To improve resilience of highly exposed regions of Georgia to hydro-meteorological threats that are increasing in frequency and intensity as a result of climate change. **Indicator:** number of people protected from the flood and flash flood risks in the Rioni river basin;				
Outcomes and indicators	**Baseline**	**Targets and Milestones**	**Source of Verification**	**Outputs and indicators**
Outcome 1: Floodplain development policies in place to minimize exposure of highly vulnerable people of Rioni river basin to climate change induced flood risks.	Fragmentation and gaps in policies and national regulations for long-term flood/flash floods under climate change	Floodplain land use and development policy which addresses fragmentation and gaps in place by project completion	Official Edition ,,Sakanonmdeblo Matsne"	**Output 1.1.** Hazard and inundation maps produced for whole basin
	Lack of appropriate hazard maps on which to base floodplain policy	Local-level flood insurance scheme to steer development away from high risk areas in place by project closure	Project annual reports; Mid-term evaluation, final report; training test results;	**Indicator 1.1.1:** Studies conducted to develop to model and map the hydro meteorological hazards of the whole Rioni basin
	Low capacity among national and regional staff to undertake hazard mapping and risk assessment to support development of floodplain policy	Accurate hazard and risk maps on which to base development policy	Project annual reports; Mid-term evaluation, final report; training test results;	**Output 1.2**. Enhanced land-use regulations introduced (land-use planning, including zoning and development controls, e.g. expansion, economic development categories etc.) to ensure comprehensive floodplain management and spatial planning

		at least 42NEA staff and 60 municipality staff (at least 50% women) trained in modern hazard mapping and risk assessment techniques	staff training record and certification	**Indicator 1.2.1**. A comprehensive and robust land use and floodplain development policy framework for Rioni basin.
Indicator 1.1: Floodplain development policies in place, which minimize Climate change vulnerability implemented by close of the project				**Output 1.3.** New building codes reviewed and streamlined for the housing rehabilitation schemes to flood proof new buildings (e.g. material standards, traditional house raising etc); **Indicator 1.3.1.** New building codes including building flood resilience measures **Output 1.4.** Targeted training of national and local authorities responsible for climate risk management in advanced methods of forward looking climate risk management planning and flood prevention measures; **Indicator 1.4.1.** at least 42NEA staff and 60 municipality staff trained in modern hazard mapping and risk assessment techniques

				Output 1.5. Community-based flood insurance scheme designed and implemented covering highly exposed villages under 6 municipalities. **Indicator 1.5.1.** At least 1 pilot community-based flood insurance scheme in place
Outcome 2: Direct investments and local actions in highly exposed and vulnerable communities improve flood management practice on 8,400km^2 and build resilience of 200,000 people	Investment in flood intervention measures limited and annual, falls short of what is required	Implementation of adaptation measures that are a mix of traditional engineering and bioengineering solutions	Project annual reports; Mid-term evaluation, final report; training test results;	**Output 2.1.** Direct measures of long term flood prevention and risk mitigation designed with participation of local governments and population in 6 municipalities (Lentekhi, Oni, Ambrolauri, Tskaltubo, Samtredia, Tsageri);
	Traditional engineering measures employed which to not take account of climate change and fail in subsequent hazard events. Climate resilience not built into current approach to direct flood intervention measures.	Set up and implement employee guarantee scheme (targeting 200 employees in each municipality, at least 50% women)		**Indicator 2.1.1.** Feasibility outline and detailed design studies undertaken to ensure the best climate resilient intervention measures are adopted which will include bioengineering solutions as well as traditional hard engineering options.

	Current approaches do not involve local communities in the implementation of measures and do not address the recurring problem of loss of agricultural property to flood damage			**Indicator 2.1.2.** 15 schemes implemented in the 6 municipalities
Indicator 2. 1: Number of community based adaptation solutions implemented at the local level upon project closure. **Indicator 2.2:** % of population with improved water management practices resilient to climate change impacts in the targeted regions.				**Output 2.2.** Community-based adaptation measures, such as bank terracing, vegetative buffers, bundles and tree revetments implemented through the municipal employment guarantee scheme; **Indicator 2.2.1**. Municipal employment-guarantee scheme employing local people in the implementation of the adaptation schemes being implemented. Long-term involvement of local population in the maintenance of flood protection infrastructure **Output 2.3.** Flood plain seasonal productive systems (e.g. short season annual cropping, cattle rearing plots or seasonal pastures, agro-forestry) benefit 200,000 people and improve resilience to

				flood threat; **Indicator 2.3.1.** Agro-forestry, cattle rearing plots and seasonal cropping measures adopted in all 6 municipalities established **Output 2.4.** Lessons learned and best practices documented and disseminated to raise awareness of effective climate risk management options for further up-scaling; **Indicator 2.4.1.** Municipal records of employees guarantee scheme and number of people employed per year
Outcome 3: Institutional Capacity developed for early warning and timely alert communication to vulnerable communities of the Rioni river basin	Monitoring network in the Rioni basin was reduced from 22 to 4 meteorological stations since the early 1990s. The 4 remaining meteorological stations covering all of Rioni basin is inadequate for effective early warning.	Implementation of adaptation measures that are a mix of traditional engineering and bioengineering solutions	Project annual reports; Mid-term evaluation, final report; Community Surveys;	**Output 3.1.** Long term historical observation data digitized and used in policy formulation and risk management practices;

Indicator 3.1. Flood forecasting and early warning systems introduced to benefit over 200,000 people at risk in the Rioni basin from flood, flash flood and landslide risk in the basin.	There is currently limited capability among national NEA staff for undertaking flood risk assessment and forecasting and limited experience of EW systems implementation and operation	Set up and implement employee guarantee scheme (targeting 200 employees in each municipality, at least 50% women)	Social programme budget statements	**Indicator 3.1.1.** Database of historical observation data for Rioni digitized
	Various out-of-date and inadequate hazard maps are used for emergency planning and response by different agencies	Purchase and install 5 Met stations, 20 Met posts, and 10 Hydrological posts		**Output 3.2.** Multi hazard risk assessment for the Rioni river basin (floods, flash floods, associated mudflows and landslides, linked with climatic alterations under alternative scenarios);
Indicator 3.2. Establishment/rehabilitation of monitoring stations to increase spatial coverage	Emergency plans currently available at MIA but propriety of the information is unknown	At least 10 NEA staff with gender balanced composition trained in risk assessment and forecasting and EWS		**Indicator 3.2.1.** Rioni flood forecasting model developed, which will couple outputs from downscaled meso-scale meteorological systems to HEC-HMS hydrological models. Linked forecasting met-hydrological-hydraulic model.

Number of associations with improved institutional capacity to deliver water services to target communities. **Indicator 3.2:** % of targeted population with more to early warning in the face of climate change **Indicator 3.3.** Number of national and local staff with flood forecasting, early warning and flood risk assessment capabilities	Currently limited warnings to communities	Provision of access to up-to-date, definitive hazards and forecast information via single GIS-based data management and dissemination system Development of emergency plans 90% of people in Rioni basin to have access to early warning messages/signals by completion of project		**Output 3.3.** Series of targeted training delivered for the NEA staff and partner organizations in the advanced methods of risk assessment and forecasting; **Indicator 3.3.1.** At least 10 NEA staff trained in risk assessment and forecasting and EWS. Municipality emergency staff trained in emergency response. Strengthened capacity of national and local staff in monitoring, flood forecasting, early warning and emergency response **Output 3.4.** Essential equipment to increase monitoring and forecasting capabilities in the target basin procured and installed; **Indicator 3.4.1.** Purchase and install 5 Met stations, 20 Met posts, and 10 Hydrological posts. Observation network of all hydrological and meteorological variables to provide an appropriate level of spatial resolution of these variables for early

				warning **Output 3.5.** Systems established at the national and sub-national level led by the NEA for long and short term flood forecasting of hydrological risks; including dissemination and communication of forecasts. **Indicator 3.5.1.** A fully integrated flood early warning system (Deltares-FEWS) which links forecasting models to telemetered data as input and forecasting reporting and warning systems as output. **Indicator 3.5.2.** An early warning communication network using different communication links such as telephone trees, SMS and e-mail networks

				Indicator 3.5.3. GIS-based website for dissemination of hazard maps and associated information, such as hydro meteorological telemetric and Deltares-FEWS data to central and local government stakeholders. **Indicator 3.5.4.** A public-facing website presenting key layers of information, with the potential to disseminate early warning information to the public. **Indicator 3.5.5.** Early warning awareness and training workshops for community, NGOs, government and media representatives.

List of Documents

Project Document
AF Project Performance Reports (PPRs) & AF Tracking Tool
Quarterly progress reports and work plans of the various implementation task teams
Audit reports
The Expert Reports
M & E Operational Guidelines, all monitoring reports prepared by the project; and
Financial and Administration guidelines.

The following documents will also be available:

Project operational guidelines, manuals and systems
Minutes of the Project Board Meetings
Maps
The AF Operations guidelines; and
UNDP Monitoring and Evaluation Frameworks.

Mid-term Evaluation Rating Scale

Progress towards results: use the following rating scale

Highly Satisfactory (HS)	Project is expected to achieve or exceed all its major global environmental objectives, and yield substantial global environmental benefits, without major shortcomings. The project can be presented as "good practice".
Satisfactory (S)	Project is expected to achieve most of its major global environmental objectives, and yield satisfactory global environmental benefits, with only minor shortcomings.
Moderately Satisfactory (MS)	Project is expected to achieve most of its major relevant objectives but with either significant shortcomings or modest overall relevance. Project is expected not to achieve some of its major global environmental objectives or yield some of the expected global environment benefits.
Moderately Unsatisfactory (MU)	Project is expected to achieve its major global environmental objectives with major shortcomings or is expected to achieve only some of its major global environmental objectives.
Unsatisfactory (U)	Project is expected not to achieve most of its major global environment objectives or to yield any satisfactory global environmental benefits.

Highly Unsatisfactory (HU)	The project has failed to achieve, and is not expected to achieve, any of its major global environment objectives with no worthwhile benefits.

Adaptive management AND Management Arrangements: use the following rating scale

Highly Satisfactory (HS)	The project has no shortcomings and can be presented as "good practice".
Satisfactory (S)	The project has minor shortcomings.
Moderately Satisfactory (MS)	The project has moderate shortcomings.
Moderately Unsatisfactory (MU)	The project has significant shortcomings.
Unsatisfactory (U)	The project has major shortcomings.
Highly Unsatisfactory (HU)	The project has severe shortcomings.

Co-financing table

Sources of Co-financing[4]	Name of Co-financer	Type of Co-financing[5]	Amount Confirmed at CEO endorsement / approval	Actual Amount Materialized at Midterm	Actual Amount Materialized at Closing
		TOTAL			

Explain "Other Sources of Co-financing":

[4] Sources of Co-financing may include: Bilateral Aid Agency(ies), Foundation, GEF Agency, Local Government, National Government, Civil Society Organization, Other Multi-lateral Agency(ies), Private Sector, Other

[5] Type of Co-financing may include: Grant, Soft Loan, Hard Loan, Guarantee, In-Kind, Other

Table of Contents for the Mid-term Evaluation Report

i. Opening page:

- Title of UNDP supported AF financed project
- UNDP and AF project ID#s.
- Evaluation time frame and date of evaluation report
- Region and countries included in the project
- Implementing Partner and other project partners
- Evaluation team members
- Acknowledgements

ii. Executive Summary

- Project Summary Table
- Project Description (brief)
- Evaluation Rating Table
- Summary of conclusions, recommendations and lessons

iii. Acronyms and Abbreviations

1. Introduction

- Purpose of the evaluation
- Scope & Methodology
- Structure of the evaluation report

2. Project description and development context

- Project start and duration
- Problems that the project sought to address
- Immediate and development objectives of the project
- Baseline Indicators established
- Main stakeholders
- Expected Results

3. Findings

3.1

Progress toward Results:

- Project Design
- Progress

3.2 Adaptive Management:

- Work planning
- Finance and co-finance
- Monitoring systems
- Risk management
- Reporting

3.3 Management Arrangements:

- Overall project management
- Quality of executive of Implementing Partners
- Quality of support provided by UNDP

4. Conclusions, Recommendations & Lessons

- Corrective actions for the design, 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
- Best and worst practices in addressing issues relating to relevance, performance and success

5. Annexes

- ToR
- Itinerary
- List of persons interviewed
- Summary of field visits
- List of documents reviewed
- Questionnaire used and summary of results
- Co-financing table

11.2 MTE Itinerary

(Team Leader – Eddy Russell)

National Consultant Team Member – Ketevan Skhireli)

Agenda for 15-21 November, 2014

Time	Organisation/Event	Person/Position/Venue	Address	Contact
		15 November, 2014		
11.30	Arrival in Georgia, Tbilisi & travel to Ambrolauri/	Project Manager, International Consultant & National Consultant.		
17.30	Arrival in Ambolauri and overnight			
		16 November, 2014		
10:00-11.30	Municipal Government ("Gamgeoba")of Ambrolauri	Mr. Parnavaz Bakuradze – Deputy Governor Mr. Aleksandre Kurtsikidze - Head of Architecture and Supervision Unit	1 Tamar Mephe Str., Ambrolauri	
11.30 – 12.05	Travel from Ambrolauri to Oni			

12.05 – 13.30	Meeting Municipal Government ("Gamgeoba") of Oni.	Mr. Giorgi Lobjanidze – Governor Mr. Alika Japaridze – Deputy Governor Mr. Koba Metreveli – Head of Finances Unit Mr. Giorgi Bendianishvili – Architecture and Supervision Unit Mr. Temur Grzelishvili – Infrastructure Unit	1 David Agmashenebeli Sq., Oni	
13.30 – 15.11	Travel from Oni to Lentekhi			
15.11-15.55	Meeting Municipal Government ("Gamgeoba")of Lentekhi	Mr. Germane Qurasbediani – Head of Infrastructure and Economy Unit	24 Tamar Mephe Str., Lentekhi	
15.55 – 16.20	Travel from Lentekhi to Tsageri			
16.20 – 16.58	Meeting Municipal Government ("Gamgeoba")of Tsageri	Mr. Iuri Lartsulani - Head of Infrastructure Unit	20 Rustaveli Str., Tsageri	
17.00 – 19.00	Travel from Tsageri to Kutaisi and overnight in Kutaisi.			
17 November, 2014				

08.30 – 10.00	Travel from Kutaisi to Tskaltubo			
10.15 – 11.35	Meeting Municipal Government ("Gamgeoba")of Tskaltubo	Mr. Merab Chikvaidze–Head of Municipal Information and Consultation Service of the Ministry of Agriculture	25 Rustaveli Str., Tskaltubo	
11.35 – 12.50	Travel from Tskaltubo to Samtredia			
12.50 – 14.10	Municipal Government ("Gamgeoba")of Samtredia	Mr. Mamuka Tavadze – Deputy Governor Mr. Joni Akhobadze – Member of City Council	6 Respublika Str., Samtredia	
14.10 – 17.30	Travel from Samtredia to Tbilisi and overnight in Tbilisi.			
18 November 2014				
08.30 – 09.30	Meeting UNDP CO	Ms. Natia Natsvlishvili - Assistant Resident Representative Ms. Nino Antadze - Energy and Environment Team Leader	9 Eristavi Str.	(995 599) 599093989 nino.antadze@undp.org
11:00 –	Meeting with the Ministry of Environment and Nature Protection	Ms. Irma Gurguliani – Head of Natural and Technological Hazard Management Service	6 Gulua Str.	(995 599) 599898818 i.gurguliani@moe.gov.ge

12.30	of Georgia			
14.40 – 15.55	Emergency Management Department under Ministry of Internal Affairs	Dr. Temur Melkadze – Police Lieutenant-Colonel, Head of the Disaster Prevention and Planning Department.	10 Gulua Str.	(995 599) 577 995 164
17:00 – 18.45	Meeting with UNDP Country Office	Ms. Nino Antadze - Energy and Environment Team Leader	9 Eristavi Str.	nino.antadze@undp.org
19 November, 2014				
11:00 – 12.30	Meeting with Bank Protection Division Under the Roads Department of Georgia at the Ministry of Regional Development and Infrastructure (MRDI)	Mr. Temur Kapanadze – Head of the Bank Protection Division Mr. Rezo Sajaia – Deputy Head of Bank Protection Division	12 Al. Kazbegi Ave.	(955 32) 2 31 30 76 info@georoad.ge
13:00 – 14.30	Meeting with PMU	Mr. Ivane Tsiklauri – Project Manager	150 Agmashenebeli Ave.	(995 599) 599978021 ivane.tsiklauri@undp.org
14:30 – 15.40	Meeting with National Environmental Agency (NEA)	Mr. Tariel Beridze – Deputy Head of Hydrometeorology Department	150 Agmashenebeli Ave.	(995 32) 2439503 tarielberidze@yahoo.com
16:00 – 16.50	Meeting with NGO “ELKANA”	Ms. Mariam Jorjadze – Director of the Elkana Ms. Medea Gabunia – Head of the Administration Department Programmes Coordinator	16 Gazapkhuli Str.	(995 32) 2536489 administration@elkana.org.ge

17:30 – 18.55	Debriefing with UNDP Country Office Management	Mr. Shombi Sharp -UNDP Deputy Resident Representative; Ms. Natia Natsvlishvili - Assistant Resident Representative Ms. Nino Antadze - Energy and Environment Team Leader	9 Eristavi Str.	(995 32) 2251126 nino.antadze@undp.org
20November, 2014				
10:00 – 11.40	Meeting with National Environmental Agency (NEA)	Mr. Ramaz Chitanava – Head of Hydrometeorology Department Mr. Merab Gaprindashvili – Deputy Head of Geological Department Mr. George Gaprindashvili – Chief Engineer-Geologist at Department of Geology	150 Agmashenebeli Ave.	(995 32) 2439503 gaprinda1609@yahoo.com
12:00 – 13.15	USAID- Integrated Natural Resources Management in the Watershed	Ms. Mariam Shotadze - Country Program Director	14 Tisian Tabidze Str.	(995 599) 593 3284 46 mshotadze@globalwaters.net
13:40-14.50	Meeting with PMU Project Administrator	Ms. Natia Lipartiani – Admin/Finance Assistant	150 Agmashenebeli Ave.	(995 599) 599978021 natia.lipartiani@undp.org
21 November 2014				
	Depart Tbilisi to Dubai and South			

	Africa			
SKYPE CALLS				
24 November 2014				
09.30 – 11.00 SA time	Skype meeting with the UNDP Regional Technical Advisor (Specialist)	Ms. Keti Chachibaia	Bangkok	keti.chachibaia@undp.org
08 December 2014				
	Skype meeting with the Project Chief Technical Adviser	Ms. Margaretta Ayoung	UK	margarettaa@yahoo.co.uk

11.3 List of People Consulted/Interviewed

1. Mr. Shombi Sharp -UNDP Deputy Resident Representative in Georgia
2. Ms. Natia Natsvlishvili – Assistant Resident Representative, UNDP in Georgia
3. Ms. Nino Antadze –Energy and Environment Team Leader, UNDP in Georgia
4. Mr. Ivane Tsiklauri – Project Manager, UNDP/Adaptation Fund Project "Climate Resilient Flood Management Practices in Georgia"
5. Ms. Natia Lipartiani – Admin/Finance Assistant (Project Management Unit), UNDP/Adaptation Fund Project "Climate Resilient Flood Management Practices in Georgia"
6. Ms. Irma Gurguliani – Head of Natural and Technological Hazard Management Service, Ministry of Environment and Natural Resources Protection of Georgia
7. Mr. Ramaz Chitanava – Head of Hydrometeorology Department, National Environmental Agency
8. Mr. Tariel Beridze – Deputy Head of Hydrometeorology Department, National Environmental Agency
9. Mr. Merab Gaprindashvili – Deputy Head of Geological Department, National Environmental Agency
10. Mr. George Gaprindashvili – Chief Engineer-Geologist at Department of Geology, National Environmental Agency
11. Dr. Temur Melkadze – Police Lieutenant-Colonel, Head of the Disaster Prevention and Planning Department, Ministry of Internal Affairs of Georgia
12. Mr. Temur Kapanadze – Head of the Bank Protection Division, Ministry of Regional Development and Infrastructure
13. Mr. Rezo Sajaia – Deputy Head of Bank Protection Division, Ministry of Regional Development and Infrastructure
14. Ms. Mariam Jorjadze – Director of the Biological Farming Association "Elkana"
15. Ms. Medea Gabunia – Head of the Administration Department Programmes Coordinator, the Biological Farming Association "Elkana"
16. Ms. Mariam Shotadze – Country Program Director, USAID funded Integrated Natural Resource Management in Watersheds of Georgia
17. Mr. Parnavaz Bakuradze – Deputy Governor of Ambrolauri, Ambrolauri Municipality
18. Mr. Aleksandre Kurtsikidze - Head of Architecture and Supervision Unit, Ambrolauri Municipality
19. Mr. Giorgi Lobjanidze – Governor of Oni, Oni Municipality
20. Mr. Alika Japaridze – Deputy Governor of Oni, Oni Municipality
21. Mr. Koba Metreveli – Head of Finances Unit, Oni Municipality
22. Mr. Giorgi Bendianishvili – Infrastructure Unit, Oni Municipality
23. Mr. Temur Grzelishvili – Infrastructure Unit, Oni Municipality
24. Mr. Germane Qurasbediani – Head of Infrastructure and Economy Unit, Lentekhi Municipality
25. Mr. Iuri Lartsulani - Head of Infrastructure Unit, Tsageri Municipality

26. Mr. Merab Chikvaidze–Head of Municipal Information and Consultation Service of the Ministry of Agriculture, Tskhaltubo Municipality
27. Mr. Mamuka Tavadze – Deputy Governor of Samtredia, Samtredia Municipality
28. Mr. Joni Akhobadze – Member of Samtredia City Council, Samtredia Municipality

---

11.4 Reference Documents

- Developing Climate Resilient Flood and Flash Flood Management Practices to Protect Vulnerable Communities of Georgia Project Project Document
- AF Project Performance Reports (PPRs) & AF Tracking Tool
- Project Quarterly progress reports and work plans of the various implementation task teams
- Audit reports
- Expert Reports
- M & E Operational Guidelines, all monitoring reports prepared by the project
- UNDP Financial and Administration guidelines.
- Project operational guidelines, manuals and systems
- Minutes of the Project Board Meetings
- Maps
- The AF Operations guidelines
- UNDP Monitoring and Evaluation Framework

11.5 Evaluation Matrix

Evaluation Question	Illustrative Indicators/ Assessment Criteria	Data Source/Collection Method for evidence
1. To what extent has the project been successful in achieving results for its stated technical objective? What have been the key drivers of & limitations on performance to date?	Indicator 1: List of enabling factors and challenges.	Interview with project management, implementing institution staff, local and national level government staff (Board members).
Outcome 1: Floodplain development policies in place to minimise exposure of highly vulnerable people of Rioni River Basin to climate change induced flood risks.	Outcome Indicator 1.1: Floodplain development policies in place, which minimise Climate change vulnerability implemented by close of the project.	Project reports, local government documentation, national policies & regulations & interviews with government & project staff.
Output 1.1: Hazard and inundation maps produced for whole basin.	**Output Indicator 1.1.1**: Studies conducted to develop, to model and map the hydrometeorological hazards of the whole Rioni basin.	Study reports from project records.
Output 1.2: Enhanced land-use regulations introduced (land-use planning, including zoning and development controls, e.g. expansion, economic development categories etc.) to ensure comprehensive floodplain management and spatial planning.	**Output Indicator 1.2.1**. A comprehensive and robust land use and floodplain development policy framework for Rioni basin.	Project records of actual plan or written progress towards plan. Report of project staff & government officials
Output 1.3: New building codes reviewed and streamlined for the housing rehabilitation schemes to flood proof new buildings (e.g. material standards, traditional house raising etc);	**Output Indicator 1.3.1:** New building codes including building flood resilience measures exist.	Project records verified by actual copy of codes.
Output 1.4. Targeted training of national and local authorities responsible for climate risk management in advanced methods of forward looking climate risk management planning and flood prevention measures.	**Output Indicator 1.4.1:** At least 42 NEA staff and 60 municipality staff trained in modern hazard mapping and risk assessment techniques.	Project records and training workshops records. Interviews with some trainees.
Output 1.5: Community-based flood insurance schemes designed and implemented covering highly exposed villages under 6 municipalities.	**Output Indicator 1.5.1.** At least 1 pilot community-based flood insurance scheme in place.	Project records and local government records of actual insurance scheme. Verification with community people.
Outcome 2: Direct investments and local actions in highly exposed and vulnerable communities improve flood management practice on 8,400km^2 and build resilience of 200,000 people.	**Outcome Indicator 2. 1:** Number of community based adaptation solutions implemented at the local level upon project closure.	Project records plus field verification of progress towards this.
	Outcome Indicator 2.2: % of population with improved water management practices resilient to climate change impacts in the targeted regions.	Project records (e.g. AF Tracking Tool). Estimations of government or NGOs.

Evaluation Question	Illustrative Indicators/ Assessment Criteria	Data Source/Collection Method for evidence
Output 2.1: Direct measures of long term flood prevention and risk mitigation designed with participation of local governments and population in 6 municipalities (Lentekhi, Oni, Ambrolauri, Tskaltubo, Samtredia, Tsageri).	**Output Indicator 2.1.1:** Feasibility outline and detailed design studies undertaken to ensure the best climate resilient intervention measures are adopted which will include bioengineering solutions as well as traditional hard engineering options.	Reports on design studies n project records, physical list of measures, verified by records of meetings to agree on measures as well as interviews with key informants in government & community.
	Output Indicator 2.1.2: 15 schemes implemented in the 6 municipalities	Project & municipality records.
Output 2.2: Community-based adaptation measures, such as bank terracing, vegetative buffers, bundles and tree revetments implemented through the municipal employment guarantee scheme.	**Output Indicator2.2.1:** Municipal employment-guarantee scheme employing local people in the implementation of the adaptation schemes being implemented. Long-term involvement of local population in the maintenance of flood protection infrastructure.	Project & government records as well as interviews with key municipal staff.
Output 2.3: Flood plain seasonal productive systems (e.g. short season annual cropping, cattle rearing plots or seasonal pastures, agro-forestry) benefit 200,000 people and improve resilience to flood threat.	**Output Indicator 2.3.1:** Agro-forestry, cattle rearing plots and seasonal cropping measures adopted in all 6 municipalities established.	Project & government records verified by observation in the field.
Output 2.4: Lessons learned and best practices documented and disseminated to raise awareness of effective climate risk management options for further up-scaling.	**Output Indicator 2.4.1:** Municipal records of employees guarantee scheme and number of people employed per year. *(Not a great indicator for this output!) Best practice document itself would help.*	Project & municipal records.
Outcome 3: Institutional Capacity developed for early warning and timely alert communication to vulnerable communities of the Rioni River Basin.	**Outcome Indicator 3.1:** Flood forecasting and early warning systems introduced to benefit over 200,000 people at risk in the Rioni Basin from flood, flash flood and landslide risk in the basin.	Project records and government records.
	Outcome Indicator 3.2: Establishment/rehabilitation of monitoring stations to increase spatial coverage.	Project & government records & some field verification.
	***Outcome Indicator 3.3**: Number of associations with improved institutional capacity to deliver water services to target communities.	Project & government records & any capacity assessment from project.
	***Outcome Indicator 3.4:** % of targeted population with more flood early warning in the face of climate change.	Project & government records.

Evaluation Question	Illustrative Indicators/ Assessment Criteria	Data Source/Collection Method for evidence
	***Outcome Indicator 3.5**: Number of national and local staff with flood forecasting, early warning and flood risk assessment capabilities.	Project & government records.
Output 3.1: Long term historical observation data digitised and used in policy formulation and risk management practices;	**Output Indicator 3.1.1.** Database of historical observation data for Rioni digitised.	Record of digitzation in project records.
Output 3.2: Multi hazard risk assessment for the Rioni river basin (floods, flash floods, associated mudflows and landslides, linked with climatic alterations under alternative scenarios).	**Output Indicator 3.2.1:** Rioni flood forecasting model developed, which will couple outputs from downscaled meso-scale meteorological systems to HEC-HMS hydrological models. Linked to forecasting met-hydrological-hydraulic model.	Project records of actual model.
Output 3.3: Series of targeted training delivered for the NEA staff and partner organisations in the advanced methods of risk assessment and forecasting.	**Output Indicator3.3.1:** At least 10 NEA staff trained in risk assessment and forecasting and EWS. Municipality emergency staff trained in emergency response. Strengthened capacity of national and local staff in monitoring, flood forecasting, early warning and emergency response	Project & government records, including any capacity assessment.
Output 3.4: Essential equipment to increase monitoring and forecasting capabilities in the target basin procured and installed;	**Output Indicator3.4.1:** Purchase and install 5 Met stations, 20 Met posts, and 10 Hydrological posts. Observation network of all hydrological and meteorological variables to provide an appropriate level of spatial resolution of these variables for early warning	Project records as well as on-site verification.
Output 3.5: Systems established at the national and sub-national level led by the NEA for long and short term flood forecasting of hydrological risks; including dissemination and communication of forecasts.	**Output Indicator 3.5.1:** A fully integrated flood early warning system (Deltares-FEWS) which links forecasting models to telemetered data as input and forecasting reporting and warning systems as output.	Project records.
	Output Indicator 3.5.2: An early warning communication network using different communication links such as telephone trees, SMS and e-mail networks.	Project records, interviews with local government & community people.
	Output Indicator 3.5.3: GIS-based website for dissemination of hazard maps and associated information, such as hydrometeorological telemetric and Deltares-FEWS data to central and local government stakeholders.	Project records & virtual visit to website.

Evaluation Question	Illustrative Indicators/ Assessment Criteria	Data Source/Collection Method for evidence
	Output Indicator 3.5.4: A public-facing website presenting key layers of information, with the potential to disseminate early warning information to the public. **Output Indicator 3.5.5:** Early warning awareness and training workshops for community, NGOs, government and media representatives	Project records & virtual visit to website. Project & government records (of training workshops) as well as interviews with key informants.

Evaluation Question	Illustrative Indicators/ Assessment Criteria	Data Source/Collection Method for evidence
1. To what extent has the project been successful in achieving results for its stated technical objective? What have been the key drivers of & limitations on performance to date?	Indicator 1: List of enabling factors and challenges.	Interview with project management, implementing institution staff, local and national level government staff (Board members).
Outcome 1: Floodplain development policies in place to minimise exposure of highly vulnerable people of Rioni River Basin to climate change induced flood risks.	Outcome Indicator 1.1: Floodplain development policies in place, which minimise Climate change vulnerability implemented by close of the project.	Project reports, local government documentation, national policies & regulations & interviews with government & project staff.
Output 1.1: Hazard and inundation maps produced for whole basin.	**Output Indicator 1.1.1**: Studies conducted to develop, to model and map the hydrometeorological hazards of the whole Rioni basin.	Study reports from project records.
Output 1.2: Enhanced land-use regulations introduced (land-use planning, including zoning and development controls, e.g. expansion, economic development categories etc.) to ensure comprehensive floodplain management and spatial planning.	**Output Indicator 1.2.1**. A comprehensive and robust land use and floodplain development policy framework for Rioni basin.	Project records of actual plan or written progress towards plan. Report of project staff & government officials
Output 1.3: New building codes reviewed and streamlined for the housing rehabilitation schemes to flood proof new buildings (e.g. material standards, traditional house raising etc); **Output 1.4.** Targeted training of national and local authorities responsible for climate risk management in advanced methods of forward looking climate risk management planning and flood	**Output Indicator 1.3.1:** New building codes including building flood resilience measures exist.	Project records verified by actual copy of codes. Project records and training workshops records. Interviews with some trainees.

Evaluation Question	Illustrative Indicators/ Assessment Criteria	Data Source/Collection Method for evidence
prevention measures. **Output 1.5:** Community-based flood insurance schemes designed and implemented covering highly exposed villages under 6 municipalities.	**Output Indicator 1.4.1:** At least 42 NEA staff and 60 municipality staff trained in modern hazard mapping and risk assessment techniques. **Output Indicator 1.5.1.** At least 1 pilot community-based flood insurance scheme in place.	Project records and local government records of actual insurance scheme. Verification with community people.
Outcome 2: Direct investments and local actions in highly exposed and vulnerable communities improve flood management practice on 8,400km^2 and build resilience of 200,000 people.	**Outcome Indicator 2. 1:** Number of community based adaptation solutions implemented at the local level upon project closure. **Outcome Indicator 2.2:** % of population with improved water management practices resilient to climate change impacts in the targeted regions.	Project records plus field verification of progress towards this. Project records (e.g. AF Tracking Tool). Estimations of government or NGOs.
Output 2.1: Direct measures of long term flood prevention and risk mitigation designed with participation of local governments and population in 6 municipalities (Lentekhi, Oni, Ambrolauri, Tskaltubo, Samtredia, Tsageri).	**Output Indicator 2.1.1:** Feasibility outline and detailed design studies undertaken to ensure the best climate resilient intervention measures are adopted which will include bioengineering solutions as well as traditional hard engineering options. **Output Indicator 2.1.2:** 15 schemes implemented in the 6 municipalities	Reports on design studies n project records, physical list of measures, verified by records of meetings to agree on measures as well as interviews with key informants in government & community. Project & municipality records.
Output 2.2: Community-based adaptation measures, such as bank terracing, vegetative buffers, bundles and tree revetments implemented through the municipal employment guarantee scheme.	**Output Indicator2.2.1:** Municipal employment-guarantee scheme employing local people in the implementation of the adaptation schemes being implemented. Long-term involvement of local population in the maintenance of flood protection infrastructure.	Project & government records as well as interviews with key municipal staff.
Output 2.3: Flood plain seasonal productive systems (e.g. short season annual cropping, cattle rearing plots or seasonal pastures, agro-forestry) benefit 200,000 people and improve resilience to flood threat.	**Output Indicator 2.3.1:** Agro-forestry, cattle rearing plots and seasonal cropping measures adopted in all 6 municipalities established.	Project & government records verified by observation in the field.
Output 2.4: Lessons learned and best practices documented and disseminated to raise awareness of effective climate risk management options for further up-scaling.	**Output Indicator 2.4.1:** Municipal records of employees guarantee scheme and number of people employed per year. *(Not a great indicator for this output!) Best practice document itself would help.*	Project & municipal records.

Evaluation Question	Illustrative Indicators/ Assessment Criteria	Data Source/Collection Method for evidence
Outcome 3: Institutional Capacity developed for early warning and timely alert communication to vulnerable communities of the Rioni River Basin.	**Outcome Indicator 3.1:** Flood forecasting and early warning systems introduced to benefit over 200,000 people at risk in the Rioni Basin from flood, flash flood and landslide risk in the basin.	Project records and government records.
	Outcome Indicator 3.2: Establishment/rehabilitation of monitoring stations to increase spatial coverage.	Project & government records & some field verification.
	***Outcome Indicator 3.3**: Number of associations with improved institutional capacity to deliver water services to target communities.	Project & government records & any capacity assessment from project.
	***Outcome Indicator 3.4:** % of targeted population with more flood early warning in the face of climate change.	Project & government records.
	***Outcome Indicator 3.5**: Number of national and local staff with flood forecasting, early warning and flood risk assessment capabilities.	Project & government records.
Output 3.1: Long term historical observation data digitised and used in policy formulation and risk management practices;	**Output Indicator 3.1.1.** Database of historical observation data for Rioni digitised.	Record of digitzation in project records.
Output 3.2: Multi hazard risk assessment for the Rioni river basin (floods, flash floods, associated mudflows and landslides, linked with climatic alterations under alternative scenarios).	**Output Indicator 3.2.1:** Rioni flood forecasting model developed, which will couple outputs from downscaled meso-scale meteorological systems to HEC-HMS hydrological models. Linked to forecasting met-hydrological-hydraulic model.	Project records of actual model.
Output 3.3: Series of targeted training delivered for the NEA staff and partner organisations in the advanced methods of risk assessment and forecasting.	**Output Indicator3.3.1:** At least 10 NEA staff trained in risk assessment and forecasting and EWS. Municipality emergency staff trained in emergency response. Strengthened capacity of national and local staff in monitoring, flood forecasting, early warning and emergency response	Project & government records, including any capacity assessment.
Output 3.4: Essential equipment to increase monitoring and forecasting capabilities in the target basin procured and installed;	**Output Indicator3.4.1:** Purchase and install 5 Met stations, 20 Met posts, and 10 Hydrological posts. Observation network of all hydrological and meteorological variables to provide an appropriate level of spatial resolution of these variables for early warning	Project records as well as on-site verification.
Output 3.5: Systems established at the national and sub-national		

Evaluation Question	Illustrative Indicators/ Assessment Criteria	Data Source/Collection Method for evidence
level led by the NEA for long and short term flood forecasting of hydrological risks; including dissemination and communication of forecasts.	**Output Indicator 3.5.1:** A fully integrated flood early warning system (Deltares-FEWS) which links forecasting models to telemetered data as input and forecasting reporting and warning systems as output. **Output Indicator 3.5.2:** An early warning communication network using different communication links such as telephone trees, SMS and e-mail networks. **Output Indicator 3.5.3:** GIS-based website for dissemination of hazard maps and associated information, such as hydrometeorological telemetric and Deltares-FEWS data to central and local government stakeholders. **Output Indicator 3.5.4:** A public-facing website presenting key layers of information, with the potential to disseminate early warning information to the public. **Output Indicator 3.5.5:** Early warning awareness and training workshops for community, NGOs, government and media representatives	Project records. Project records, interviews with local government & community people. Project records & virtual visit to website. Project records & virtual visit to website. Project & government records (of training workshops) as well as interviews with key informants.