



Climate proofing guide for UNDP Armenia projects

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Table of Contents

Introduction	3
What is climate proofing and why is it needed?.....	4
Is climate proofing needed for all projects?	4
Climate proofing process	5
<i>Who?</i>	5
<i>When?</i>	6
<i>Information collection</i>	6
<i>Impact analysis</i>	7
<i>Proofing measures</i>	7
<i>Integration</i>	8
Conclusion.....	9
Annex I. List of used literature	10
Annex II. Rapid climate risk screening	11
Annex III. Climate change screening and adaptation scenarios	12

Introduction

One of the main global challenges the world faces today is the climate change. While its impact may not be obvious for everyone yet, it is clear that if current trends are not changed we will face dramatic changes in our life in coming decades. Climate change will most likely result in increasing of global temperature by 2100 up to 1.8-4.0 C⁰, worsening of droughts, more frequent heavy one-time precipitations leading to floods and landslides, increasing of sea level, etc.¹ All of these are going to have serious financial and economic impact on all aspects of life, including agriculture, tourism, industries, households, etc.

UNDP is one of the first organizations to include the need for climate change addressing in its work through its Corporate Climate Change Strategy (2008) and more recently through Social and Environmental Strategies (2014), which states that “UNDP will ensure that its Projects are sensitive to climate change risks and do not contribute to increased vulnerability to climate change” and “UNDP’s Social and Environmental Standards (SES) underpin UNDP’s commitment to mainstream social and environmental sustainability in its Programmes and Projects to support sustainable development”.

Present guide is based on the experience of UNDP (particularly UNDP Armenia) and other international organizations and is aimed at further integration of climate proofing into interventions of UNDP Armenia at various levels. It is expected to be used by project managers to ensure sustainability of investment projects implemented by UNDP in Armenia from the climate change perspective.

¹ IPCC. Climate Change 2007: The Physical Science Basis. Summary for Policymakers.

What is climate proofing and why is it needed?

Investment decisions made by donor organizations, including UNDP, today in most of the cases have long-term life span and impact. Thus when choosing options it is important to take into consideration what will the world potentially look like in coming decades and how will that future situation affect investments. Climate change impact is one of the main variables to be taken into consideration and it is important to make sure that investment projects implemented today can resist negative impacts of the climate change.² Climate proofing is a tool using which project managers can ensure that all known climate risks that can have negative impact on their activities in the future are addressed.

“Climate proofing – a shorthand term for identifying risks to a development project, or any other specified natural or human asset, as a consequence of climate variability and change, and ensuring that those risks are reduced to acceptable levels through long-lasting and environmentally sound, economically viable, and socially acceptable changes implemented at one or more of the following stages in the project cycle: planning, design, construction, operation, and decommissioning.”

Climate Proofing. A Risk-based Approach to Adaptation, ADB, 2005

Climate proofing helps ensuring that development projects implemented under current climate conditions are designed properly to remain efficient in the future as well, when the climate may be slightly different. For instance, when investing into planting of an orchard, it is important to make sure that selected species will be able to grow and maintain sufficient productivity under changing climatic conditions.

Integration of climate change factor into development projects helps avoiding, if possible, or reducing future costs related with adaptation of projects to climate change impacts. Despite expenses related with climate proofing process, proper planning of the project before the implementation may prove to be more cost-efficient than implementation of adaptation measures when the project is already implemented.

“Opportunities to strengthen environmental and social sustainability, including climate resiliency, of programming need to be identified and realized. Potential adverse impacts and risks need to be avoided or minimized, where possible, and mitigated if not”.

UNDP Programme and Operations Policies and Procedures

Is climate proofing needed for all projects?

Since climate change has its direct or indirect impact on all projects, ideally climate proofing has to be done for all projects, but since the process requires significant additional investments, it may be a good idea to begin with climate proofing for projects with budgets

² Climate Proofing for Development. Adapting to Climate Change, Reducing Risk, GIZ, 2011

exceeding USD 200,000.³ Access to information is one of the most important factors contributing to successful climate proofing and it is not always readily available for all of the projects. If time and additional funding necessary for information collection exceed those needed for project adaptation in the future, then it may not make sense to undertake climate proofing.

The decision on conduction of climate proofing can also be based on the level of risk of the project. UNDP suggests that no further assessment of potential adverse environmental risks and impacts is done for **low risk** projects with minimal or no risk of negative social or environmental effects. In case of **moderate risk** projects with potential adverse environmental risks and impacts of limited scale, which can be identified and addressed relatively easily, conduction of limited assessment is recommended in order to determine whether project needs to be re-categorized as **high risk**. Finally, for **high risk** projects with “potential significant and/or irreversible adverse social and environmental risks and impacts, or which raise significant concerns among potentially affected communities and individuals as expressed during the stakeholder engagement process” require full scale assessment, based on which respective climate proofing measures are undertaken.⁴

Finally, the nature of the project can also play role when deciding whether climate proofing is needed or not. Generally, governance and capacity development projects do not require climate proofing, since these are less affected by the climate, but since these are often aimed at development of planning capacities, it may be useful to conduct climate proofing of such projects in order to integrate climate proofing into planning documents at different levels and ultimately into projects.

Climate proofing process

Who?

UNDP Guidelines for Climate Change Proofing in UNDP Projects and Programmes in Armenia developed in 2009 recommend using the Rapid climate risk screening tool (see Annex II for the tasks of the tool) to determine which projects require in-depth climate risk screening and climate proofing. The overall responsibility for climate proofing of a project has to be put on project managers, who need to conduct preliminary assessment of climate risk related with a project and based on the results of the assessment make decision on further actions. Should there be need for more detailed analysis that should be done by respective professionals, like meteorologists, geologist, etc.

³ Guidelines for Climate Change Proofing in UNDP Projects and Programmes in Armenia, UNDP Armenia, 2009

⁴ UNDP Social and Environmental Standards, 2014

When?

Three options are recommended regarding the preferable time for conduction of climate proofing:

- Investing into climate proofing during the planning or implementation of the project,
- Designing the project in such a way, that project can be made climate proofed at any time, when not climate proofing becomes less preferable than climate proofing,
- The project design is not changes, but the climate change situation is closely monitored in order to invest into necessary changes once the need occurs.

Number of factors has to be taken into consideration when choosing one of the possible options, including the cost of climate proofing today and in the future, presence/absence of no-regret options, presence/absence of other benefits, including economic, social and environmental, as well as the extent of benefits to be gained from climate proofing.⁵

Information collection

The initial assessment can be conducted using the information available in Armenia's National Communications on Climate Change developed with the support of UNDP Armenia. These provide sufficient information and different climate change trends and models for Armenia for the initial assessment of projects implemented in Armenia from the climate proofing perspective. As a general rule current weather/climate patterns of different parts of the country are going to develop further, thus if for instance, a village has had frequent droughts during recent years, then most likely in coming years these will become more intensive.

Based on this assumption it may be a good idea to interview local population, municipality and regional administration staff to determine recent climate related event that have caused problems. The interviews may be with groups or individuals and may be done through pre-developed questionnaires or general conversations. In case of the questionnaires, UNDP Armenia has developed such tools within the framework of its Climate Change Programmes and Disaster Risk Reduction Project. These can be a cost effective tool even for relatively small project, since the cost of in depth analysis of a village using these questionnaires and developed methodologies may cost somewhere between 500 to 1,000 US dollars depending on the population, geography and other factors related with given community or can be done by project in-house capacity.

At this stage there are few important questions that need to be answered based on information available in literature and collected from the population to help decision making, including:

- Are there any consequences for the project due to climate change, and what are those if any?

⁵ Guidelines for Climate Proofing Investment in Agriculture, Rural Development, and Food Security, ADB, 2012

- Is the project long enough to be affected by the climate?
- Does project have elements that are particularly vulnerable to negative impacts of the climate change?

Impact analysis

Based on the findings of literature review and interviews it will be possible to determine the level of risk related with given project and make a decision regarding the need for further analysis and undertaking of respective actions, like for instance incorporation of certain changes in construction design or changing the composition of species to be planted.

In order to make properly substantiated decision regarding the climate proofing options for a project there need to be conducted an analysis of both socio-economic and biophysical effects of the climate change for given activity. Based on this there may be determined the level of risk:

Risk (climate-related) – is the result of the interaction of physically defined hazards with the properties of the exposed systems – i.e., their sensitivity or (social) vulnerability. Risk can also be considered as the combination of an event, its likelihood, and its consequences – i.e., risk equals the probability of climate hazard multiplied by a given system’s vulnerability.

$$Risk = Hazard (climate) \times Vulnerability (exposure)$$

Adaptation Policy Framework for Climate Change, UNDP 2005

The following are the questions, answers to which may help determine the level of climate risk for a project:

- Is the geographic location of the project more exposed to climate risk?
- Does project include climate sensitive activities, like agriculture, fisheries, forests, water or soil management, other goods and services related with ecosystems?
- Are project beneficiaries especially vulnerable to climate change effects, such as people dependent on natural resources, women, refugees, etc.?⁶

In addition to this, it will also be helpful to assess the probability of the impacts’ occurring, the level of impact on project, as well as the ability of the project to adapt to the changes independently. Based on the analysis, there are determined the most significant effects and decision is made regarding the necessity for proceeding to further phases.

Proofing measures

Depending on the level of risk determined based on information collection and analysis there are developed measures necessary for climate proofing of the project. These are aimed at reduction of climate change negative impacts and using potential positive effects.

⁶ Toolkit for Integrating Climate Change Adaptation into Development Projects, Care International, 2010

At this stage it is a good idea to review the international experience in climate proofing actions for given sector in order to save time and financial resources. Different criteria may be used for the selection of the final option, including strategic relevance, urgency, side effect, no regret, flexibility, economic aspects, political and social acceptance.⁷ The specific weight of each criterion can be decided based on project. It is also recommended taking into consideration the co-benefits of specific options, such as jobs creations, improvement of gender equality, water quality improvement, environmental benefits, etc.

Integration

Finally, the selected actions need to be integrated into project documents if those are still being developed or implemented if the project is already underway. In many cases the integration of options into the project may require significant modification of project activities, while in case of other the changes may be minor. For instance, if the project includes major construction activities, such as roads, bridges or pipelines, integration of climate proofing options may require complete revision of the design, whereas in case of planting of an orchard, there may simply be necessary to change the composition of selected species or consider water availability and use of water saving technologies. In many cases, there may also be need for specific technical knowledge to implement the options, thus resulting in significant additional financial costs.

Using the project cycle for integration of climate proofing is a viable option, as it is the main tool for working at project level, where most of recent progress in climate proofing has been achieved. This will require several actions to be undertaken along the project cycle, including conduction of climate risk analysis, development of criteria for the assessment of climate proofing options, as well as participation of all possible stakeholders. The latter is essential, since it helps to identify all possible options, as well as ensures proper monitoring and oversight of the implemented activities. Implementation of pilot activities is another helpful idea, as it helps managers to understand better the climate proofing process and avoid mistakes.

⁷ Climate Proofing for Development. Adapting to Climate Change, Reducing Risk, GIZ, 2011

Conclusion

Climate proofing should definitely become a common practice for development projects, especially in countries like Armenia, where funds are limited, while the impact of the climate change is more severe. But while introducing climate proofing as a tool that will help ensuring effectiveness of the implemented projects in longer term, we also need not forget about the impact of climate proofing measure on the climate changes itself. It will be preferable if in case of existence of several options for climate proofing activities the selection criteria for the final option include climate friendliness among other things.

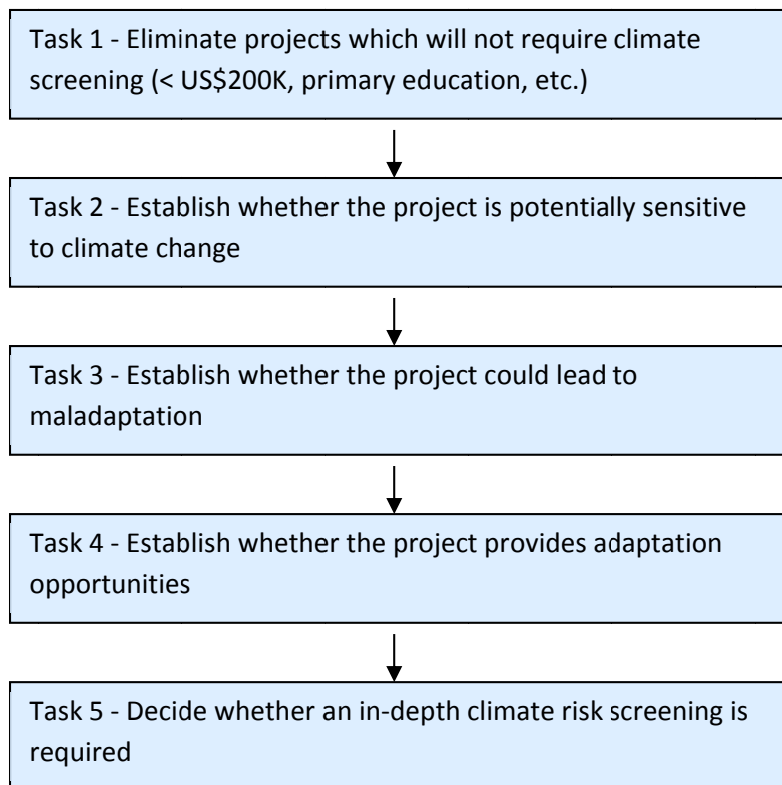
Another important issue related with climate proofing process is making sure that effects of climate change, that can be positive for certain issues, are also taken into consideration. For instance, there may be a situation, when due to decreasing of the level precipitations the need for protection of river banks or slopes decreases, thus the investments into such projects can be adjusted accordingly. Or if there is the opposite situation and the level of precipitation will increase in currently arid area, it may be a good idea to start investing into agricultural production requiring relatively more water.

Presented approaches to climate proofing summarize most of the methods currently used by various international organizations around the world. Nevertheless, it cannot be considered axiomatic, since each project and case may require completely different methodologies. Here are presented main approaches, which can be applied by UNDP Armenia, but in order to achieve better results it is highly recommended to study the documents presented in the literature list. Each of these presents a unique approach that has been developed and piloted in certain situations, thus different projects in Armenia may find more fitting methods in different documents out of presented ones. There are also general principles, which are prioritized in the climate proofing process in most of the sources. These are transparency and participation, which make sure that all necessary information and opinions are collected in time, thus making climate proofing more sound.

Annex I. List of used literature

1. Climate Proofing. A Risk-based Approach to Adaptation, ADB, 2005,
2. Economics of Climate Proofing at Project Level, ADB, 2013,
3. Guidelines for Climate Proofing. Investment in Agriculture, Rural Development, and Food Security, ADB, 2012,
4. Toolkit for Integrating Climate Change Adaptation into Development Projects, CARE International, 2010,
5. Review of tools and methods to increase climate resilience of GEF projects and programs, GEF, 2011,
6. Climate Proofing for Development. Adapting to Climate Change, Reducing Risk, GIZ, 2011,
7. Climate Proofing for Development. A Training Toolkit, GIZ, 2012,
8. Climate Change Data and Risk Assessment Methodologies for the Caribbean, Inter-American Development Bank, 2014,
9. Methodologies for Climate Proofing Investments and Measures under Cohesions and Regional Policy and Common Agricultural Policy. Final Report, Institute for European Environmental Policy, 2012,
10. Integrating Climate Change Adaptation into Development Co-operation. Policy Guidance, OECD, 2009,
11. Paving the Way for Climate-Resilient Infrastructure. Guidance for Practitioners and Planners, UNDP, 2010,
12. UNDP Social and Environmental Standards, 2014,
13. Mainstreaming Climate Change Adaptation into Development Planning: A Guide for Practitioners, UNDP, UNEP, 2011,
14. Achieving Climate Resilient Development. Progress Report, WB, 2012,
15. Climate Proofing. An instrument for taking into consideration climate change and its impacts in the projects and programmes of Welthungerhilfe, Welthungerhilfe, 2011.

Annex II. Rapid climate risk screening



Annex III. Climate change screening and adaptation scenarios

