Promoting Adaptation to Changing Coasts

New cross-border transferable strategy to address risks and problems.

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Foreword

The Promoting Adaptation to Changing Coasts (PACCo) project is a cross-border initiative which is financially supported by the INTERREG VA France (Channel) England project co-financed by the European Regional Development Fund.

The broad aim of PACCo is to demonstrate that it is possible to work with stakeholders in estuarine regions to deliver a range of benefits for people and the environment by adapting pre-emptively to climate change. It has a total value of €27.2m, with €18.8m coming from the European Regional Development Fund (ERDF).

The project focuses on two pilot sites: the Lower Otter Valley, East Devon, England and the Saâne Valley in Normandy, France.

For more information see: Promoting Adaptation to Changing Coasts (pacco-interreg.com)

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1. Introduction

WP T 1.1.1 developed a new methodology to identifying and listing the risks and issues specific to a project on climate change adaptation in a heavily modified estuary. In the following report we set out a new strategy to mitigate these previously assessed risks and issues. The quicker a risk can be anticipated, the easier it can be controlled and its potential impacts limited.

With reference to the risks and issues identified previously, this document provides solutions to reduce the risks and issues affecting the project. Once the risk mitigation measures are implemented, it is essential to continue monitoring these threats, which could arise at any time during the various phases of the project. When this strategy is established, it will be published in the PACCo guide and made available to other projects focusing on climate change adaptation in estuaries.

2. Methodology

Having identified and assessed the risks and issues, the next step involves implementing management strategies to eliminate or reduce the threat. For ease of reading, the main elements of the risk register and issue register (deliverable WPT 1.1.1) are repeated in two registers that provide solutions and can be read independently of the first deliverable. A strategy to prevent potential risks or issues from arising should be developed from the very beginning of the project, in order to respond effectively to threats and anticipate the actions that need to be taken. In the case of the PACCo project, almost all of the risks were identified right from the design and planning phase.

2.1 Risks and issues: definitions and distinctions

It is important to make the distinction between a risk and an issue. This distinction is essential to ensure effective management of the various risks and issues, in order to minimising their impacts.

2.1.1 Definition

A risk: a hazard or undesirable event, its occurrence is uncertain. Due to its consequences, the project may fail to meet its objectives with regard to: completion date, costs, specifications (technical, quality, performance, reliability, etc.), company image, legal, social, environmental etc... A risk is a danger of varying predictability that may impact the outcome of the project. It is not possible to eliminate all risks entirely, but preventative actions may be implemented to mitigate them.

An issue: a difficulty which must be resolved in order to obtain the desired result: an unstable or hazardous situation which requires a decision to be made. Issues can vary in their severity and significance, and are often unexpected, which is why they need to be dealt with urgently. To avoid being caught off-guard, it is important to predict as many potential issues as possible that may arise during the project.

2.1.2 Risk/issue distinction

Something that is uncertain (a risk) can be managed through preventative measures. Something that is certain (an issue) can only be dealt with through remedial actions. The main difference between a risk and an issue lies in the definition of the two terms. By definition, an issue is an event that has already occurred and has a purely negative impact on the project. A risk, by contrast, is a potential event, which may or may not occur in the future, and which (if it occurs) will have negative implications for the project's objectives. This key difference determines how the threat will be dealt with in order to eliminate it. In the case of risks, mitigation plans or measures can be implemented in advance. In the case of issues, it is necessary to react to the occurrence of the event in order to resolve it as quickly as possible.

This difference in the timing of the measures explains why it is important to deal with the potential events separately through independent risk and issue registers. A risk can develop and transform into an issue. If an issue was previously identified as a risk, it is important to record it within the risk register. A risk can become an issue if, despite the implementation of mitigation measures, the risk is not entirely eliminated and the threat remains. Residual risk, or a risk that is impossible to control (e.g., flooding), must be monitored closely by project members.

2.2 The four phases of the project

1- Project set up: This initial phase of the project involves the launch of the initial studies and analysis. It is also known as the pre-project phase. During this phase, objectives are set and initial guidelines are laid out in order to meet these objectives. This is also the phase where the team and main contributors are identified, in order to establish who is involved in and affected by the project. A feasibility study is carried out to identify the main issues that may arise during the project and determine the scope of the project. The deliverables are also set out at this stage. Public acceptance of the project is essential during this phase.

2- Design and planning: During this phase, team members set out the project's main areas of focus, establishing what needs to be done, how it should be done and with what means. This is the phase in which the budgets are calculated, to estimate and establish the costs involved in implementation of the project. This phase lays the groundwork for the creation of a project plan containing the schedule, tasks to complete and the various constraints. This is the phase where the risks and issues must be anticipated, so that solutions can be implemented to avoid disrupting the project delivery and impacting its success/implementation

3- Implementation and construction: Once the project plan has been drawn up and the project partners identified, the execution phase can begin. This involves the practical implementation of the different tasks. The planned actions are carried out to meet the completion of the project. During this phase, the various project partners and members ensure compliance with the planned actions, schedule and expenses, and intervene if any changes are needed. This phase also sees an increase in communications about the project with stakeholders and the public, to keep them informed of the work progress. This phase ends when the various operations are completed and approved.

4- Post construction: This is the phase for assessing the result once the work is completed. It provides an opportunity to harness the value of the various aspects of the project and learn the key lessons.
In the case of climate change adaptation projects, this phase also involves the implementation of follow-up actions to measure the positive outcomes of the project. Beneficial outcomes may only become apparent several years after the project implementation, so follow-up work needs to be planned accordingly.
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2.3 The four risk management strategies

Risk management involves implementing tools to eliminate risks or reduce their impacts to ensure the project is running effectively. Therefore, it is necessary to define and implement solutions to each individual risk in order to manage the threats they represent. There are four risk management strategies that may be employed:

- Eliminate the risk: Often, risks arise due to poor evaluation of the situation and a lack of knowledge. Therefore, risks may be eliminated by carrying out in-depth studies and increasing knowledge about the environment in which the project is taking place. However, it is impossible to eliminate all risks. Consequently, other strategies need to be developed and applied.
- Transfer the risk: It is possible to transfer the negative impacts of risks, and responsibility for them, to a third party or a technical expert. This strategy can be implemented by hiring a Project Management Assistant. For example, this solution was implemented for the future campsite in Quiberville. This person supports the project manager and can also offer expertise and mitigate certain risks or issues that could arise as the result of insufficient knowledge or experience.
- Mitigate the risk: This strategy involves implementing measures to reduce the risk. Mitigation measures can either or both, decrease the likelihood of an event occurring, or minimise its impact on the objectives.
- Accept the risk: With this final strategy, the risk is known but the decision is made to tolerate it. Not all risks can be managed or anticipated; some of them needs to be accepted. This strategy can be active or passive in nature:
    - Passive acceptance means letting the risk arise and managing it when it occurs and becomes an issue.
    - Active acceptance is the more commonly used strategy. The idea is to set aside resources (financial or human) that can be used to address the accepted risk.

2.4 Register of preventative measures to address risks

The register of preventative measures to address risks can be broken down into two parts. The first part, identification, includes the information from the risk register set out in deliverable T1.1. The second part focuses on the solutions that can be used to avoid these risks.

Identification

ID: This ID is the same in the risk register (WPT1.1).

Project phase: phase in which the risk is most likely to transform into an issue. Once the project phase is completed, the risk may remain and it can only be eliminated if it is linked to a specific phase.

Identification phase: phase in which the issue was identified.

Risk identification: risk name. This name is the same as in the previous deliverable (T1.1).

Nature of the risk: establishing the nature of the risk is the first step towards determining the risk type. There are several different types of risk:

- Financial: costs which exceed estimates, budget shortfall, etc.
- Landownership: all risks linked to property management.
- Human: all risks for which humans are directly responsible. This risk type ranges from poor communication with the general public to fears that may be felt by the partners and public regarding the project.
- Project management: this risk relates to the various aspects linked to project construction and development.
- Lead times/schedule: delays on the part of contractors or suppliers; poor estimations of timeframes. Deviation from schedule due to poor initial estimation of the time needed to complete tasks.
- Technical: the project involves the use of a new programming language or a new technique that staff are not yet familiar with, unsuitable software, breakdown of outdated hardware
- Legal: regulations and laws to comply with, bankruptcy of a supplier, etc.
- Environmental: negative impacts of the project on the environment, or an environment-linked event that has an impact on the project (flooding, drought, storm, etc.)
- Organisational: change in the company policy, economic changes, inappropriate allocation of responsibilities for given tasks, several people assigned to the same tasks without a clear division of roles, insufficient involvement of stakeholders and, in particular, of the project sponsor(s).
- Public perception: the type of construction work and the image conveyed by project partners have a direct impact on the public's perception of the project.

Impact(s)/consequence(s): identification of potential impacts which may occur when a risk transforms into an issue. These impacts may have serious consequences for the progress of the project. Thinking about these possible impacts can help staff to find solutions to eliminate or mitigate the risk and its impacts.

Site: this is a European project with two different sites (the Otter and the Saâne). Even though these two projects are similar, differences may arise, particularly as a result of external factors. It is therefore important to state whether the risk in question applies to one site or both.

Probability x Impact = Criticality: these three columns help to evaluate and rank the risks (see part: Risk assessment in risk and issue methodology) before solutions are found and implemented to mitigate the risk.

Resolution

Management strategy: Indicates the most appropriate strategy to address the risk effectively.

Mitigation measures: indicates the most appropriate measures for combating the risk. The main aspects of the preventative measure(s) can be described briefly in this section. Depending on the strategy chosen, these measures may vary in size and complexity, and require substantial time for implementation. These measures target either severity or probability, or sometimes both.

Probability after mitigation: reassessment of the risk probability after implementing preventative measures.

Severity after mitigation: reassessment of the risk severity after implementing preventative measures.

Criticality after mitigation: reassessment of the criticality of the risk after implementing preventative measures.

Monitoring mitigation measures to be implemented: indication of which measure(s) to take in order to continue monitoring the risk. Even if preventative measures have been implemented, it is important to continue monitoring risks to ensure that they remain at an acceptable level of criticality. Not all risks require monitoring measures to be implemented.

2.5 The register of solutions to address issues

The register of solutions to address issues includes all the actions implemented to deal with the issues encountered during the PACCo project. This register has been populated from the issue register (T1.1), which identifies the issues encountered. This new register can be separated into two parts; the first part identifies the information featured in the issue register (T1.1). It allows to read the solution register for the issue to be read independently from the issue register (T1.1). The second part, entitled 'Solution', sets out the remedial action(s), issue status and requirements for subsequent monitoring.

Identification

ID: issue number. This ID is the same as in the issue register (T1.1).

Project phase: phase in which the issue arose.

Issue identification: gives the name of the issue. This identification is the same as in the previous deliverable, in the issue register (T1.1).

Nature of the issue: describes the nature of the issue (financial, landownership, human, environmental, etc.).

Impact(s)/Consequence(s): Impacts and consequences of the issue when it materialises and affects the project. Impacts on the project objectives may be financial, may affect the image of the project or the biodiversity protection objectives.

Identification date: Date on which the issue arose.

Site: this is a European project with two different sites (the Otter and the Saâne). Even though these two projects are more or less the same in their general approach, differences may arise, particularly as a result of external factors. It is therefore important to state whether the risk in question applies to one site or both.

Priority: Like the criticality levels for risks, issues will also be assessed according to their priority. This method will help to determine which issues need to be dealt with as a priority.

Resolution

Remedial actions: Once the issue has been identified and described, intervention must be quick in order to limit the impacts and consequences. This column states the measures and actions that have been implemented to eliminate the issue.

Resolution date: Date on which a solution was applied that eliminated the issue.

Status: Current status of the issue. A number of status options are available for each issue:

- Resolved: the issue has been eliminated and is no longer a threat.
- Processing: a solution has been found and is being implemented.
- Ongoing: the issue is still ongoing, and no solution has yet been found or implemented to combat it.

Further mitigations measures: Indicates whether monitoring or tools must be employed once the issue is resolved, to prevent it from reoccurring.

2.6 How to interpret the register - example

To help you interpret the register, here is an example relating to risk R20:

The probability of this risk materialising as an issue is highest in the final phase of the project (post-construction). Named "*Floodplain reconnection can restore natural processes of erosion and sedimentation*", this risk is environmental in nature. If this risk materialises, there could be impacts and consequences for both valleys. If the risk transforms into an issue "*Erosion could destabilise structures (e.g., bridges, embankments) and excessive sedimentation could affect the flow of water in the creek networks. In addition, changes in water movement flow may impact on existing access or on adjacent habitats which may be protected (for example SSSI in the Otter Valley)*.". Given the construction of the rigid-framed bridge in the Saâne valley and the bridge in the Otter valley, this risk is relevant to both sites. If nothing is done to mitigate this risk, it is "*very likely*" (4) to materialise, and this could have "*significant*" impacts (2). With a score of 8 (4 x 2), therefore this risk is "*significant*". The mitigation strategy selected in order to reduce this risk was "*Studies carried out during the planning phase should assess the potential impacts of natural processes. The project should be designed to be adaptable from geomorphology perspective. Hard engineering can be used to mitigate the residual issues.*". These studies help to reduce the probability of this risk materialising and also its severity, by factoring it into the design of the structures. With a score of 6 (3 x 2), this risk is downgraded from "*significant*" to "*moderate*". To prevent this

risk from becoming a problem in the future, monitoring measures can be put in place post-project: “Once the project is finished, erosion and sedimentation need to be monitored around the structures and on the water flow. If any erosion or sedimentation is detected, remedial action needs to be undertaken.”.