ADAPTATION FUND

AFB/ PPRC.22-23/16
11 June 2018

Adaptation Fund Board
Project and Programme Review Committee
Twenty-Second Meeting
Bonn, Germany, 11 June 2018

PROPOSAL FOR MADAGASCAR, MALAWI, MOZAMBIQUE AND THE UNION OF COMOROS

Background

1. The strategic priorities, policies and guidelines of the Adaptation Fund (the Fund), as well as its operational policies and guidelines include provisions for funding projects and programmes at the regional, i.e. transnational level. However, the Fund has thus far not funded such projects and programmes.

2. The Adaptation Fund Board (the Board), as well as its Project and Programme Review Committee (PPRC) and Ethics and Finance Committee (EFC) considered issues related to regional projects and programmes on a number of occasions between the Board's fourteenth and twenty-first meetings but the Board did not make decisions for the purpose of inviting proposals for such projects. Indeed, in its fourteenth meeting, the Board decided to:

> *(c) Request the secretariat to send a letter to any accredited regional implementing entities informing them that they could present a country project/programme but not a regional project/programme until a decision had been taken by the Board, and that they would be provided with further information pursuant to that decision*

(Decision B.14/25 (c))

3. In its eighth meeting in March 2012, the PPRC came up with recommendations on certain definitions related to regional projects and programmes. However, as the subsequent seventeenth Board meeting took a different strategic approach to the overall question of regional projects and programmes, these PPRC recommendations were not included in a Board decision.

4. In its twenty-fourth meeting, the Board heard a presentation from the coordinator of the working group set up by decision B.17/20 and tasked with following up on the issue of regional projects and programmes. She circulated a recommendation prepared by the working group, for the consideration by the Board, and the Board decided:

> *a. To initiate steps to launch a pilot programme on regional projects and programmes, not to exceed US$ 30 million;*
>
> *b. That the pilot programme on regional projects and programmes will be outside of the consideration of the 50 per cent cap on multilateral implementing entities (MIEs) and the country cap;*
>
> *c. That regional implementing entities (RIEs) and MIEs that partner with national implementing entities (NIEs) or other national institutions would be eligible for this pilot programme, and*

d. To request the secretariat to prepare for the consideration of the Board, before the twenty-fifth meeting of the Board or intersessionally, under the guidance of the working group set up under decision B.17/20, a proposal for such a pilot programme based on consultations with contributors, MIEs, RIEs, the Adaptation Committee, the Climate Technology Centre and Network (CTCN), the Least Developed Countries Expert Group (LEG), and other relevant bodies, as appropriate, and in that proposal make a recommendation on possible options on approaches, procedures and priority areas for the implementation of the pilot programme.

(Decision B.24/30)

5. The proposal requested under (d) of the decision above was prepared by the secretariat and submitted to the Board in its twenty-fifth meeting, and the Board decided to:

a. Approve the pilot programme on regional projects and programmes, as contained in document AFB/B.25/6/Rev.2;

b. Set a cap of US$ 30 million for the programme;

c. Request the secretariat to issue a call for regional project and programme proposals for consideration by the Board in its twenty-sixth meeting; and

d. Request the secretariat to continue discussions with the Climate Technology Center and Network (CTCN) towards operationalizing, during the implementation of the pilot programme on regional projects and programmes, the Synergy Option 2 on knowledge management proposed by CTCN and included in Annex III of the document AFB/B.25/6/Rev.2.

(Decision B.25/28)

6. Based on the Board Decision B.25/28, the first call for regional project and programme proposals was issued and an invitation letter to eligible Parties to submit project and programme proposals to the Fund was sent out on 5 May 2015.

7. In its twenty-sixth meeting the Board decided *to request the secretariat to inform the Multilateral Implementing Entities and Regional Implementing Entities that the call for proposals under the Pilot Programme for Regional Projects and Programmes is still open and to encourage them to submit proposals to the Board at its 27th meeting, bearing in mind the cap established by Decision B.25/26.*

(Decision B.26/3)

8. In its twenty-seventh meeting the Board decided to:

a. Continue consideration of regional project and programme proposals under the pilot programme, while reminding the implementing entities that the amount set aside for the pilot programme is US$ 30 million;

b. Request the secretariat to prepare for consideration by the Project and Programme Review Committee at its nineteenth meeting, a proposal for prioritization among regional project/programme proposals, including for awarding project formulation grants, and for establishment of a pipeline; and

c. Consider the matter of the pilot programme for regional projects and programmes at its twenty-eighth meeting.

(Decision B.27/5)

9. The proposal requested in (b) above was presented to the nineteenth meeting of the PPRC as document AFB/PPRC.19/5. The Board subsequently decided:

a) With regard to the pilot programme approved by decision B.25/28:

(i) To prioritize the four projects and 10 project formulation grants as follows:

1. If the proposals recommended to be funded in a given meeting of the PPRC do not exceed the available slots under the pilot programme, all those proposals would be submitted to the Board for funding;

2. If the proposals recommended to be funded in a given meeting of the PPRC do exceed the available slots under the pilot programme, the proposals to be funded under the pilot programme would be prioritized so that the total number of projects and project formulation grants (PFGs) under the programme maximizes the total diversity of projects/PFGs. This would be done using a three-tier prioritization system: so that the proposals in relatively less funded sectors would be prioritized as the first level of prioritization. If there are more than one proposal in the same sector: the proposals in relatively less funded regions are prioritized as the second level of prioritization. If there are more than one proposal in the same region, the proposals submitted by relatively less represented implementing entity would be prioritized as the third level of prioritization;

(ii) To request the secretariat to report on the progress and experiences of the pilot programme to the PPRC at its twenty-third meeting; and

b) With regard to financing regional proposals beyond the pilot programme referred to above:

(i) To continue considering regional proposals for funding, within the two categories originally described in document AFB/B.25/6/Rev.2: ones requesting up

to US$ 14 million, and others requesting up to US$ 5 million, subject to review of the regional programme;

(ii) To establish two pipelines for technically cleared regional proposals: one for proposals up to US$ 14 million and the other for proposals up to US$ 5 million, and place any technically cleared regional proposals, in those pipelines, in the order described in decision B.17/19 (their date of recommendation by the PPRC, their submission date, their lower "net" cost); and

(iii) To fund projects from the two pipelines, using funds available for the respective types of implementing entities, so that the maximum number of or maximum total funding for projects and project formulation grants to be approved each fiscal year will be outlined at the time of approving the annual work plan of the Board.

(Decision B.28/1)

10. According to the Board Decision B.12/10, a project or programme proposal needs to be received by the secretariat no less than nine weeks before a Board meeting, in order to be considered by the Board in that meeting.

11. This is the fourth submission of the regional project proposal. It was first submitted to the twenty-seventh Board meeting, and the Board decided not to endorse it. It was then submitted to the twenty-eighth Board meeting, and the Board decided to endorse the project pre-concept.

(Decision B.28/20)

12. At the twenty-ninth meeting of the Board, having considered the comments and recommendation of the Project and Programme Review Committee, the Board decided:

(a) To endorse the project concept, as supplemented by the clarification response provided by the United Nations Human Settlements Programme (UN-Habitat) to the request made by the technical review;

(b) To approve the Project Formulation Grant of US$ 80,000; and

(a) To encourage the Governments of the Comoros, Madagascar, Malawi and Mozambique to submit through UN-Habitat a fully-developed project document for the Board's consideration.

(Decision B.29/22)

13. The present submission of the project proposal was received by the secretariat in time to be considered in the thirty-first – thirty second intersessional Board meeting. The secretariat carried out a technical review of the project proposal, with the diary number AFR/MIE/DRR/2016/1, and completed a review sheet.

14. In accordance with a request to the secretariat made by the Board in its 10th meeting, the secretariat shared this review sheet with UN-Habitat, and offered it the opportunity of providing responses before the review sheet was sent to the PPRC.

15. The secretariat is submitting to the PPRC the summary and the initial technical review of the project, both prepared by the secretariat, along with the submission of the proposal in the following section. In accordance with decision B.25.15, the proposal is also submitted with changes between the initial submission and the revised version highlighted.

Project Summary

Madagascar, Malawi, Mozambique and Union of Comoros - Building urban climate resilience in South-eastern Africa

Implementing Entity: United Nations Human Settlements Programme (UN-Habitat)
Project/Programme Execution Cost: US $1,119,252
Total Project/Programme Cost: US $12,900,851
Implementing Fee: US $1,096,572
Financing Requested: US $13,997,423

Project Background and Context:

The present project will strengthen urban climate resilience by working with various levels of government and stakeholders and ensuring strong participation, of the most vulnerable groups, in all its phases – from conception to evaluation. Four countries were selected where the main activities are expected to take place: Madagascar, Malawi, Mozambique and the Union of Comoros. They are in the south-eastern part of the African continent, which is a region very vulnerable to common transboundary extreme climate-related events, cyclones, floods, sea level rise/coastal erosion and drought.

Component 1:. Preparation, implementation and sustainable management of priority sub-projects at the city level (USD 10,491,599)

This component includes preparation, implementation and sustainable management of priority sub-projects at the city level, aligned with Adaptation Fund (AF) Outcome 2: “Strengthened institutional capacity to reduce risks associated with climate-induced socio-economic and environmental losses”, AF Outcome 3: “Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level”, AF Outcome 4: “Increased adaptive capacity within relevant development and natural resource sectors” and AF outcome 5: “Increased ecosystem resilience in response to climate change and variability-induced stress”;

Component 2: Tools and guidelines development and training delivery at the national level (USD 760,000)

This component includes tools and guidelines development and training delivery at the national level, aligned with AF Outcome 2: “Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses” and AF Outcome 7: “Improved policies and regulations that promote and enforce resilience measures”;

Component 3: Inter-country experience sharing, cross-fertilisation and dissemination of lessons learned at the regional level (USD 530,000)

This component includes inter-country experience sharing, cross-fertilisation and dissemination of lessons learned at the regional level, aligned with the need of a regional project to promote

new and innovative solutions to climate change adaptation for urban areas in multiple countries affected by common/transboundary climatic threats, with AF Outcome 2: “Strengthened institutional capacity to reduce risks associated with climate-induced socio-economic and environmental losses” and AF Outcome 7: “Improved policies and regulations that promote and enforce resilience measures”.

ADAPTATION FUND

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW

OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Regional Project

Country/Region: **Madagascar, Malawi, Mozambique and Union of Comoros**
Project Title: **Building urban climate resilience in South-eastern Africa**
Thematic focal area: **Disaster risk reduction and early warning systems**
Implementing Entity: **United Nations Human Settlements Programme (UN-Habitat)**
Executing Entities: For regional coordination purposes: **Disaster Risk Reduction Unit of the Southern Africa Development Community (SADC), in partnership with DiMSUR: Technical Centre for Disaster Risk Management, Sustainability and Urban Resilience**
For national level activities: **National Government Entities**
For city level activities: **Oxfam international (in cooperation with municipalities, local NGOs and communities) and sub-contractors**
AF Project ID: **AFR/MIE/DRR/2016/1**
IE Project ID:
Requested Financing from Adaptation Fund (US Dollars): **13,997,423**
Reviewer and contact person: **Saliha Dobardzic**
Co-reviewer(s): **Dirk Lamberts**
IE Contact Person: **Mathias Spaliviero**

Review Criteria	Questions	Comments May 7, 2018	Comments May 23, 2018
Country Eligibility	1. Are all of the participating countries party to the Kyoto Protocol?	Yes.	
	2. Are all of the participating countries developing countries particularly vulnerable to the adverse effects of climate change?	Yes.	
Project Eligibility	1. Has the designated government authority for the Adaptation Fund endorsed the project/programme?	Yes. Up-to-date endorsement letters have been provided.	
	2. Does the regional project / programme support concrete adaptation actions to assist the participating countries in addressing the adverse effects of climate change and build in climate resilience, and do so providing added value through the regional approach, compared to implementing similar activities in each country individually?	Not clear. The proposal is clear concerning supporting the concrete adaptation actions in the participating countries, but there remains the question of whether the proposed project would add value, through the regional approach, in the most cost-effective way. It is not clear whether the activities proposed under the component with the most prominent regional dimension are the most effective way of generating and disseminating knowledge. Please provide further rationale, or consider revising the proposal, as needed. CAR 1	CAR 1: Addressed. The revised proposal includes justifications for the approach proposed, namely through support for the regional platform for urban resilience.

	3. Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the Environmental and Social Policy of the Fund?	Yes.	

	4. Is the project / programme cost-effective and does the regional approach support cost-effectiveness?	Not clear. It is unclear whether the regional approach supports cost-effectiveness. The regional aspect is realized mainly through the knowledge-sharing component (Component 3), but the planned costs of the activities under that component are not clearly justified. The proposed budget for Component 3 would be more readily assessed if further information could be provided on this component. Outputs 3.1 and 3.2 seem potentially problematic. It is unclear whether the proposed set of activities is the most cost-effective approach to broad dissemination of the lessons from the project. Please provide further rationale for Component 3 as currently structured, or revise as needed. CAR 2 Also, please see the comments concerning the budget.	CAR 2: Addressed. Components 2 and 3 have been revised.

	5. Is the project / programme consistent with national or sub-national sustainable development strategies, national or sub-national development plans, poverty reduction strategies, national communications and adaptation programs of action and other relevant instruments? If applicable, it is also possible to refer to regional plans and strategies where they exist.	Yes.	
	6. Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund?	Generally yes, relevant national technical standards have been identified and the method for meeting these are provided. There are a few outstanding issues, e.g. EIA requirements in Malawi, with an activity of 36,000 beneficiaries and a threshold of 1,000. CR 1: Please clarify how the outstanding national technical standards requirements will be addressed.	CR 1: Addressed.

	7. Is there duplication of project / programme with other funding sources?	No.	
	8. Does the project / programme have a learning and knowledge management component to capture and feedback lessons?	Yes. The project is designed to achieve enhanced knowledge, communication and information exchange between cities and national governments to strengthen urban climate resilience practices under project Component 3. Cross fertilization through learning exchanges at the regional level is embedded in the project's design that caters for future exchange on urban climate resilience tools, information, strategies and best practices.	
	9. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations?	CR 2: Please clarify if the results of the environmental and social screening and a draft environmental and social assessment, including any proposed management plan, have been made available for public consultations as required by the ESP.	CR 2: Clarified. However, please note that the ESP requires (para 33) that "The results of the environmental and social screening and a draft environmental and social assessment, including any proposed management plan, shall be made available for public consultations that are timely, effective, inclusive, and held free of coercion and in an appropriate way for communities that are directly affected by the proposed project/programme. (…) The implementing entity is responsible for disclosing the final environmental and social assessment to project-affected people and other stakeholders."

	10. Is the requested financing justified on the basis of full cost of adaptation reasoning?	Yes.	
	11. Is the project / program aligned with AF's results framework?	Yes.	
	12. Has the sustainability of the project/programme outcomes been taken into account when designing the project?	Yes.	
	13. Does the project / programme provide an overview of environmental and social impacts / risks identified?	Yes. All project activities are fully identified, there are no USPs. However, the risks identification is generally not in line with the ESP. The ESP requires that the risks are identified in a comprehensive way, including all the 15 ESP principles and all the project activities, without taking specific mitigation or management measures into account. This is currently not the case, in particular for social risks (e.g. gender equality and women's empowerment) where only the activities of component 1.2. seem to have been considered.	CR 3: Partially addressed. II.L table of identified ESP risks states that "vulnerable groups have been identified in target areas and possible impact quantified as shown in Annexes 6 and 7." However, • Annex 6 – Gender Approach – does not identify vulnerable groups, let alone quantify them. • Annex 7 refers in several locations to marginalized and vulnerable groups but nowhere provides specifics,

		The risk identification should also not take personal appreciations like 'not major', 'not significant' etc. into account as is the case here. Such conclusions might be reached after an impact assessment, where the conclusions, in line with the ESP, are evidence-based and justified. There are also contradictions (e.g. on p. 124 and 125) where, despite a stated absence of risk, avoidance and prevention measures are announced. Table 30 lists potential risks and their identified prevention and mitigation measures. The 'potential risks' that are listed under each principle in the first column are not in line with the ESP principles, and it is not clear if (all) the appropriate elements have been considered in the risks identification. This is also the case for the sub-project fiches. CR 3: Please clarify the outcome of the risks identifications in line with the ESP principles.	referring to other parts of the proposal that also lack that specific information: • None of the Annex 5 documents provides specific information on marginalized and vulnerable groups • Annex 8 provides in one location (as an example, on the last page) quantitative information on marginalized and vulnerable people – people with a disability.There are a few other examples of consultations of members of –generically - vulnerable groups: women, elderly, disabled. At least for this principle of the ESP, the issue was not addressed. CR 4: Addressed.

		The risk under the ESP principle on Human Rights is not comprehensively identified (p.126). E.g., for Malawi and Mozambique there are recent (2017) reports (Human Rights Council, Amnesty International) on human rights issues regarding persons with albinism. These suggest that there may be risks associated with the project. The risks identifications reported in the sub-project documents are generally not in line with the ESP. E.g.: marginalized and vulnerable groups are not identified or quantified; human rights risks considered are limited to land tenure; current livelihoods services of the (still present) mangrove remnants, in particular to vulnerable and marginalized households, have not been identified; the sub-project on solid waste management (5.4.3) is found not to have risks in terms of pollution prevention; sub-project 5.2.5 on river-focused interventions states: “The shape of the river valley is relatively steep and surrounded by settlements, most of which are informal and built into the river bed.” Yet, no risk of involuntary resettlement is	

		found. No information is provided on the biodiversity importance of the river and its dynamics, yet the conclusion is that there is no impact on biodiversity. Annex 8 is limited to attendance lists, providing no further information on the consultations held. The ESMP is built around the ESP risk findings, with their shortcomings. These reflect in the ESMP, and require further attention. E.g., Table 7 includes avoidance or mitigation measures. For ESP principle 3, Marginalized and Vulnerable Groups, identifying such groups is not included, while this is a key requirement for effective risk identification, as well as avoidance and mitigation. CR 4: Please clarify how the mitigation measures included in the ESMP are comprehensive and in line with the identified risks.	

	14. Does the project promote new and innovative solutions to climate change adaptation, such as new approaches, technologies and mechanisms?	Yes.	
Resource Availability	1. Is the requested project / programme funding within the funding windows of the pilot programme for regional projects/programmes?	Yes.	
	2. Are the administrative costs (Implementing Entity Management Fee and Project/ Programme Execution Costs) at or below 20 per cent of the total project/programme budget?	Yes.	
Eligibility of IE	3. Is the project/programme submitted through an eligible Multilateral or Regional Implementing Entity that has been accredited by the Board?	Yes.	

Implementation Arrangements	4. Is there adequate arrangement for project / programme management at the regional and national level, including coordination arrangements within countries and among them? Has the potential to partner with national institutions, and when possible, national implementing entities (NIEs), been considered, and included in the management arrangements?	Not clear. Please specify in detail the coordination arrangements between the countries. CR 5	CR 5: Addressed.
	5. Are there measures for financial and project/programme risk management?	Yes.	

	6. Are there measures in place for the management of for environmental and social risks, in line with the Environmental and Social Policy of the Fund? Proponents are encouraged to refer to the Guidance document for Implementing Entities on compliance with the Adaptation Fund Environmental and Social Policy, for details.	Yes. An ESMP is presented. However: Changes to the ESMP or additional activities will need to be approved by the project steering committee, which is stated on p. 134 to meet once annually. CR 6: Please clarify how the ESMP can lead to adaptive management when changes can be approved only once a year. The risk management arrangements on p.141 further refers to a technical advisory group that will be requested to provide inputs to risk assessment of potential risks. This technical advisory group is not mentioned elsewhere in the application or in its annexes. CR 7: Please clarify the status of the technical advisory group and its role in the management of environmental and social risks	CR 6: Partially addressed. Changes to project activities are subject to the established process with the AF Secretariat. The additions on p. 145 should reflect that. CR 7: Addressed CR 8: All ESP risks should be identified comprehensively prior to project submission, and management measures identified. CR 9: Addressed. CR 10: Partially addressed. The information in Annex 7 needs to be

		Point (ii) of the risk management arrangements (p. 142) states that the outcomes of the ESP risks identification that was carried out will need to be confirmed during the inception phase. CR 8: Please clarify the need to confirm the findings of the ESP risks identification during the inception phase of the project. The remainder of this paragraph is incomplete and not in line with the rest of the proposal. CR 9: Please clarify the ESP risks management arrangements. The ESMP generally lacks implementation arrangements for the mitigation and management measures that have been identified. CR 10: Please clarify how mitigation and management measures will be implemented.	consistent with that in the main document and other annexes.

	7. Is a budget on the Implementing Entity Management Fee use included?	Yes. However, please see comment under Section 6, Implementation Arrangements. CR 11	CR 11: Addressed.
	8. Is an explanation and a breakdown of the execution costs included?	Yes. However, please see comment under Section 6, Implementation Arrangements. CR 12	CR12: Addressed.
	9. Is a detailed budget including budget notes included?	Yes. However, the budget requires a revision, especially on components 2 and 3. Please revise. CAR 3 SPF files with breakdown on individual activities are incomplete, lacking information on the sites to which the activities are linked, and other critical information, making it difficult to assess the documents provided as well as how they relate to each other and the main budget document. Please review and revise the documents as needed, and provide an explanatory note. CAR 4	CAR3: Addressed. CAR4: Addressed.

	10. Are arrangements for monitoring and evaluation clearly defined, including budgeted M&E plans and sex-disaggregated data, targets and indicators?	Yes. However, please see the comment under Section 6, Implementation arrangements. CR 13	CR 13: Addressed.
	11. Does the M&E Framework include a break-down of how implementing entity IE fees will be utilized in the supervision of the M&E function?	Yes.	
	12. Does the project/programme's results framework align with the AF's results framework? Does it include at least one core outcome indicator from the Fund's results framework?	Yes.	

	Is a disbursement schedule with time-bound milestones included?	Yes. However, please see the comment provided under item 6 on Implementation Arrangements. CR 14 The Disbursement Schedule (H) is not consistent with the figures provided in the detailed budget document. Please review the documents and revise as needed. CAR 5	CR 14: Addressed. CAR 5: Addressed

Technical Summary	The resubmitted proposal considerably clarifies or corrects most of the issues that were raised during the initial review. However, a few issues persist, requiring adjustments or further clarification: 1. II.L table of identified ESP risks states that "vulnerable groups have been identified in target areas and possible impact quantified as shown in Annexes 6 and 7." However, the vulnerably groups are not adequately identified or described, few specifics are provided, and quantitative information is absent. **CR 3** 2. Changes to project activities are subject to the established process with the AF Secretariat, and this should be clearly stated in the document. **CR 6** 3. All ESP risks should be identified comprehensively prior to project submission, and management measures identified. **CR 8** 4. The information among the main document and annexes should be consistent. **CR 10**

Date:	May 23, 2018

REQUEST FOR PROJECT
FUNDING FROM THE ADAPTATION FUND

The annexed form should be completed and transmitted to the Adaptation Fund Board Secretariat by email or fax.

Please type in the responses using the template provided. The instructions attached to the form provide guidance to filling out the template.

Please note that a project/programme must be fully prepared (i.e., fully appraised for feasibility) when the request is submitted. The final project/programme document resulting from the appraisal process should be attached to this request for funding.

Complete documentation should be sent to:

The Adaptation Fund Board Secretariat

1818 H Street NW

MSN P4-400

Washington, D.C., 20433

U.S.A

Fax: +1 (202) 522-3240/5

Email: afbsec@adaptation-fund.org

ADAPTATION FUND

REGIONAL PROJECT PROPOSAL

PART I: PROJECT INFORMATION

Title of Project/Programme:	**Building urban climate resilience in south-eastern Africa**
Countries:	Madagascar, Malawi, Mozambique and Union of Comoros
Thematic Focal Area:	Disaster risk reduction and early warning systems
Type of Implementing Entity:	Multilateral Implementing Entity
Implementing Entity:	United Nations Human Settlements Programme (UN-Habitat)
Executing Entities:	For regional coordination purposes: Disaster Risk Reduction Unit of the Southern Africa Development Community (SADC), in partnership with DiMSUR: Technical Centre for Disaster Risk Management, Sustainability and Urban Resilience For national level activities: National Government Entities For city level activities: Oxfam international (in cooperation with municipalities, local NGOs and communities) and sub-contractors

Amount of Financing Requested: **US$13,997,423**

Project Background and Context:

i. Introduction: African context of climate change, urbanisation and adaptive capacity

Africa is undergoing rapid urbanisation that will result in almost 1.33 billion people living in cities by 2050, compared to 470 million at present. Although Africa's population remains mostly rural, the continent will become predominantly urbanised in the next 20 years with an urban population of over 50% by 2036[1]. With a lack in local capacity to manage this rapid urban growth much of the population expansion is taking place outside or in absence of official planning frameworks. A large part of the housing demand is being met by growing informal settlements characterised by poor living conditions, lack of access to basic services and infrastructure, and often located in areas exposed to natural hazards.

Urban risks are exacerbated by the increasing severity and unpredictability of disruptive events caused by climate change effects. These events impact on a range of sectors from water supply to food and health systems, and adversely affect the urban poor, especially women. They also

[1] United Nations, Department of Economic and Social Affairs, Population Division (2014). World Urbanization Prospects: The 2014 Revision

damage infrastructure, interrupt services, cause food scarcity and increase the prevalence of vector and water-borne diseases.

Urban areas are generally more vulnerable to disasters than rural areas, due to denser populations, concentration of assets and variety of activities within comparatively smaller geographical areas. Importantly, a direct correlation between poverty and vulnerability to environmental risks is observed. Low-income groups in African cities are often excluded from decision-making, living in a permanent coping state, and have the least resources at their disposal during crisis. Research on African cities has highlighted the lack of capacity and awareness about climate change, combined with high levels of vulnerability among the continent's large and rapidly growing urban poor populations.[2]

Among the urban poor, women and the very young are shown to be the most at risk from disease, pollution and disasters.[3] Women indeed have less control over opportunities and access to information and/or education and, as a consequence, fewer resources to prevent, cope with, and adapt to disaster risks. At the same time, cultural biases and sensitivities often relegate them out of decision-making processes. On the hand, disaster risk management can also offer opportunities by elevating the status of women as agents of change in their communities and by increasing the understanding of the gender dimension during disasters.

The impact of climate change is particularly acute in small to intermediate sized cities in Africa as they host the largest share of the urban population (54%), and are projected to be the world's fastest growing urban agglomerations in the decades to come.[4] At the same time, inadequate institutional capacities and weak governance processes are significantly exacerbated by the rapid expansion of both formal and informal urban settlements. Hence, developing local governance capacity in risk management and resilience planning is a key strategy to reduce the multiple risks cities are exposed to and adapt to the adverse effects of climate change.

The Fifth IPCC Assessment Report[5] presents strong evidences that average temperatures in Africa have increased over the last 50–100 years. In particular, the report suggests that climate change has already impacted on the magnitude and frequency of extreme weather events in the continent, thus affecting health, livelihoods and food security of poor people. Predictions suggest that, given the increase in temperature, the severity of the consequences of climate change on environmental, economic and cultural systems across Africa will increase. The Report also highlights that climate change is one of the main drivers of rural-urban migration.

Rapid urbanisation puts a lot of pressure on governments' policies, increasing the demand for essential services/goods (water, energy, food, etc.) and calling for significant investments in creating jobs and providing infrastructure and services. African cities, in most cases, lack adequate financial resources and capacity to respond to these needs. Across the continent, most adaptation to climate variability and change is reactive, short term based, implemented at the

[2] Revi, A., D.E. Satterthwaite, F. Aragón-Durand, J. Corfee-Morlot, R.B.R. Kiunsi, M. Pelling, D.C. Roberts, and W. Solecki, 2014: Urban areas. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, p. 552

[3] UN-Habitat 2014, The State of African Cities 2014 Report – Re-imagining sustainable urban transitions, p.33

4 Ibid

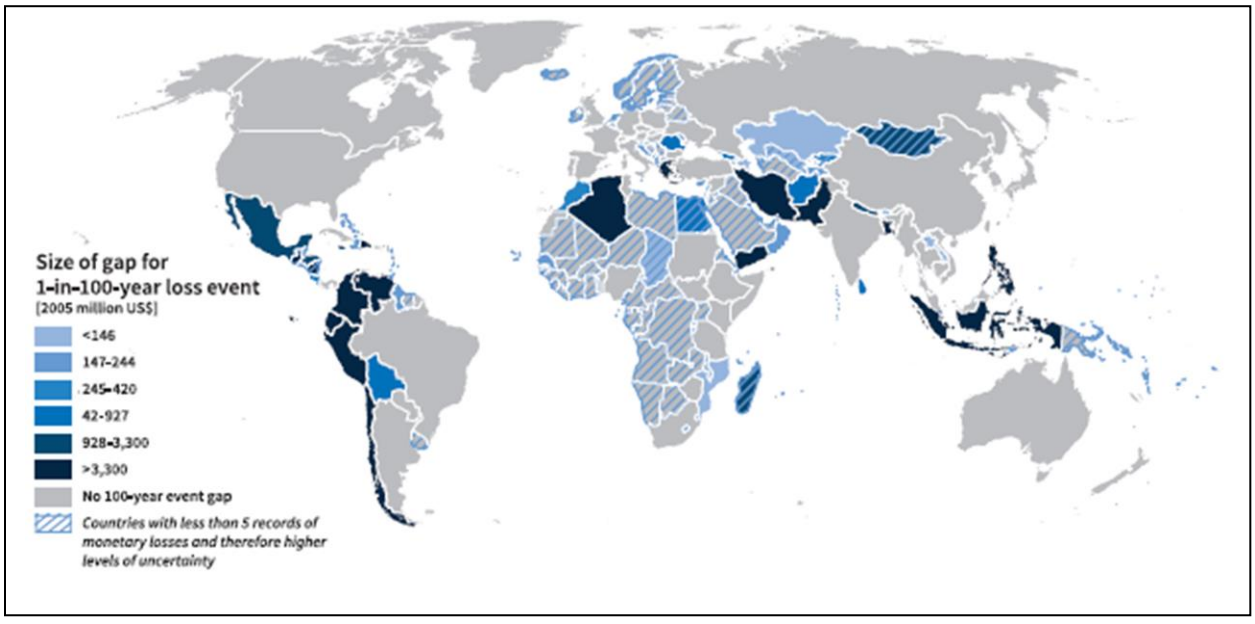
[5] Niang, I., O.C. Ruppel, M.A. Abdrabo, A. Essel, C. Lennard, J. Padgham, and P. Urquhart, 2014: Africa. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change; p. 1202

individual or household level, and is not appropriately supported by government stakeholders and relevant policies.

The impacts of climate change in Africa can be witnessed in disaster losses. While globally the modelled mortality risk associated with floods and tropical cyclones was estimated to have peaked in the year 2000 before trending down, the flood mortality risk in sub-Saharan Africa has grown consistently since 1980 because increasing population exposure has not been accompanied by a commensurate reduction in vulnerability[6], which can be attributed to low levels of adaptive capacity.

Furthermore, African countries are among the ones with the biggest financing gap for addressing climate vulnerability and are hence severely challenged by rising economic loss. In addition, risks financing is a relatively new concept and still difficult to be applied at scale. Most loss is uninsured and governments do not have the emergency financial reserves or access to contingency financing that would allow them to absorb losses, recover quickly and rebuild. Such disasters also often create fiscal risks and drive major budget volatilities which then badly impact on national economies. For example, while Canada and the United States would only face challenges in absorbing the impact from a 1-in-500-year loss, Madagascar and Mozambique would face difficulties finding the resources to absorb the impact from as small as a 1 in 3-25 year loss[7]. Clearly, the financial risk to these countries is substantial. In particular, a very significant number of countries would not pass a stress test of their financial capacity to absorb the impact of a 1-in-100-year loss (see figure 1).

Figure 1: Countries facing a financing gap for a 1-in-100-year loss event – UNISDR Global Assessment Report 2015, p. 102.



[6] UNISDR, Global Assessment Report on Disaster Risk Reduction, 2015, p. 44

[7] UNISDR, Global Assessment Report on Disaster Risk Reduction, 2015, p. 102, and citations therein

Multiple uncertainties in the African context mean that successful adaptation will depend upon developing resilience in the face of uncertainty.[8] Planning for climate change adaptation requires that urban planning, development and management are focused on producing urban systems that have greater capacity to absorb shocks and adapt to climate-related impacts, thus ensuring the continuity of the key city's functions. Transport and mobility are essential for evacuation and delivering rapid assistance during disaster response and recovery. In general, good mobility and connectivity in a city are indicators of its capacity to recover quickly and to maintain a certain level of functionality in time of crisis. Streets layout and the correlated drainage network facilitate water flow in case of flooding, and much depend on land use planning and land management systems in place. Green areas can provide a space for communities' gathering in case of disasters and can also contrast the negative effects of urbanisation, like air pollution. A diversified urban economy can provide people with alternative jobs or sources of incomes so that they can adapt to changing situation without completely undermining their livelihood.

At times of disaster, impacts and losses can be substantially reduced if authorities, individuals and communities in hazard-prone areas are resilient: well prepared, ready to act and equipped with the knowledge and capacities for effective disaster risk management within a longer-term development perspective. Building adaptive capacity at the different levels is essential for ensuring future urban climate resilience. Participation and inclusion are key elements for boosting adaptive capacity at local levels, to help identifying the key existing and potential vulnerabilities in specific communities, and to link short-term priorities to long-term plans.

Yet, despite the fact that urbanisation has progressively taken on a central role for understanding risk and its associated vulnerability, there is a noticeable lack of contextually adapted urban risk reduction and resilience initiatives in sub-Saharan Africa. Existing tools and approaches are not appropriately targeting low capacity local governments in the region, while at the same time tend to be dedicated to a narrow audience. They often heavily rely on outside technical expertise, are too technical in nature, and depend on costly data collection methods, creating a disincentive to local governments in kick-starting a process of resilience building and climate change adaptation.

The present project will strengthen urban climate resilience by working with various levels of government and stakeholders and ensuring strong participation, in particular of the most vulnerable groups, in all its phases – from conception to evaluation. Four countries were selected where the main activities are expected to take place: Madagascar, Malawi, Mozambique and the Union of Comoros. They are located in the south-eastern part of the African continent, which is a region very vulnerable to common transboundary extreme climate-related events, in particular cyclones, floods, sea level rise/coastal erosion and drought.

Four cities with different types of vulnerabilities have been selected in these countries to implement pilot climate adaptation projects following a participatory approach, namely: Morondava, Madagascar; Zomba, Malawi; Chokwe, Mozambique; and Moroni, Comoros. These urban settlements were selected in coordination with the national authorities, according to the following criteria: (i) high exposure to climate-related hazards (cyclones, floods, sea level rise or coastal erosion, drought); (ii) low institutional and financial capacity of the municipality (typical situation of a fast growing small/intermediate city of sub-Saharan Africa with a population ranging between 50,000 and 150,000 inhabitants); and (iii) cities in which the United Nations Human

[8] Niang, I., O.C. Ruppel, M.A. Abdrabo, A. Essel, C. Lennard, J. Padgham, and P. Urquhart, 2014: Africa. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change; p. 1126

Settlements Programme (UN-Habitat) has recently engage in implementing risk reduction and resilience building activities.

ii. Sub-regional, country and city perspective

a) Environmental context at sub-regional and country level

Southern Africa is very exposed to the impacts resulting from recurrent natural hazards such as cyclones, floods, sea level rise/coastal erosion and drought. More threats exist in this region that compound the effects of these natural hazards, some of natural origin (such as earthquakes, volcanic activity, among others) and others induced by anthropogenic interventions, such as land and environmental degradation and uncontrolled urbanisation. In this section, the intent is to first describe the common/transboundary natural hazards, which cyclically threaten to break the economic development process of the whole region. Based on the Emergency Events Database (EM-DAT), over the last two decades countries in the Southern Africa region have been affected by a number of natural hazards that have led to disasters including: 42 droughts, 66 storms, and 172 floods. These events have resulted in loss of lives and livelihoods and displacement of millions of people.

More specifically, the IPCC projections indicate that, as a consequence of climate change, risks of drought, especially in south-western sub-regions, will be higher. There is uncertainty concerning projected changes in landfall of tropical cyclones originating in the southwest Indian Ocean, which has led to intense flooding in the last decades. As for precipitation changes in the region, drought and heavy rainfall have been experienced more frequently during the last 30 years. An increase in extreme warm indices (hot days, hot nights, and hottest days) and a decrease in extreme cold indices (cold days and cold nights) in recent decades are consistent with the general warming. Future precipitation projections show changes in the scale of the rainfall probability distribution, indicating that extremes of both signs may become more frequent in the future.[9]

According to the UNISDR Global Assessment Report 2015, with the exception of Small Island Developing States (SIDS), the Philippines and Madagascar are the two countries in the world with the largest proportion of their capital investment at risk as consequence of tropical cyclones, again highlighting the importance of prospective disaster risk management. In the sub-region targeted by the project, Mozambique and the Union of Comoros follow Madagascar as the most vulnerable to this type of natural hazard (see figure 2).

While Malawi is affected to a lesser extent, it is impacted through tropical cyclones in the form of severe flooding, similarly as the other three countries. In early 2015, devastating floods disrupted Malawi's economy and displaced hundreds of thousands of people, especially poor and vulnerable communities. In addition, Madagascar, Comoros and Mozambique have several coastal cities that are likely to be affected by sea level rise resulting from increasingly warmer temperatures.

The hydro-geographical profile of the region shows that nine international river basins flow to Mozambique, among which the Zambezi is the largest one, followed by the Limpopo, Rovuma and Save (see figure 3). This means that flooding is a regular seasonal phenomenon in that country, and its extent much depends on the amount of rainfall registered in the neighbouring

[9] Ibid., p.1211

countries located upstream. Chokwe, located in the lower Limpopo River basin, was severely flooded in 2000 and 2013, in particular because of the high level of discharges observed upstream. Therefore, there is a clear need to strengthen current efforts and enhance inter-country collaboration to mitigate effectively the impact of floods in this sub-region.

Drought is a chronic natural disaster in the sub-region. It increases dramatically the vulnerability of an already poor population, in particular in terms of food security and livelihood. Urban areas are not spared by this type of natural hazard. Drought has particular negative consequences on women by increasing their daily domestic workload as the time they spend for collecting water or securing food increases. In urban contexts, micro-informal business activities represent the prevalent source of income; during droughts, food prices' increase, lower availability of food and decreasing number of buyers (due to the reduced purchasing power) increase the cost of doing business. In addition, limited access to water can cause serious health/hygiene problems in poor urban areas characterized by degraded conditions, with a higher likelihood of spread of diseases due to overcrowding. Informal dwelling made of corrugated iron sheets (or "shacks") can become extremely hot due to higher temperatures.

Figure 2: Frequency of cyclone impact in south eastern Africa – Atlas for Disaster Preparedness and Response in the Limpopo Basin, INGC, UEM and FEWS NETMIND (2003).

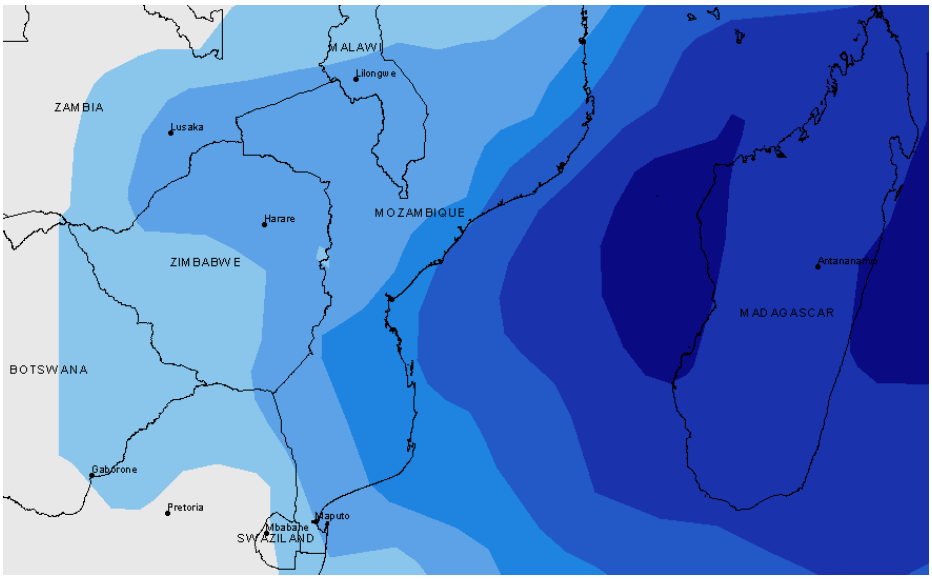
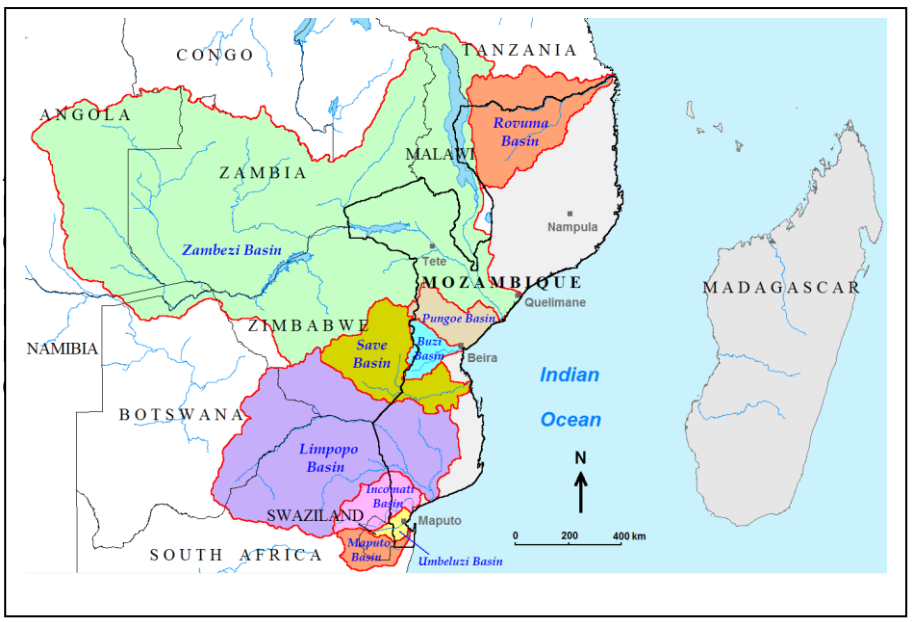
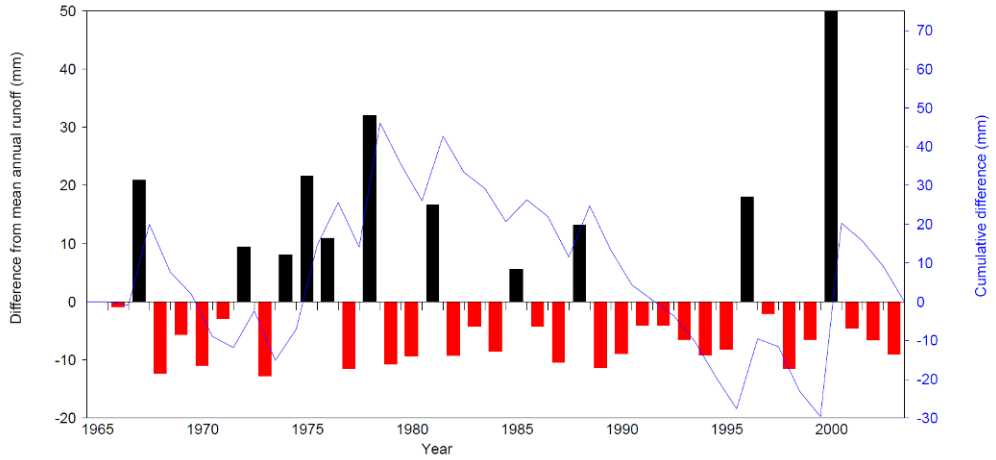


Figure 3: International river basins in South-East Africa - Atlas for Disaster Preparedness and Response in the Limpopo Basin, INGC, UEM & FEWSNET MIND (2003).



H.
I.
J.
K.
L. Mozambique is currently affected by a protracted on-going drought since early 2016. Affected populations do not have sufficient time to recover from the economic and social impacts provoked by droughts between one cycle and the next. Figure 4 depicts the irregular hydrological regime of an important river like the Limpopo, showing the constant alternating of flood peaks and longer drought periods.
M.

Figure 4: Hydrological anomalies in the Limpopo basin – Extracted from the presentation made by the Ministry of Public Works and Housing, Mozambique, on 15 December 2005, titled: "Experiences of Mozambique on Disaster Management".



N.
O. Disaster impacts vary between these four countries targeted by the project, with Madagascar and Mozambique having a different disaster risk profile because of their greater geographical size. The prominent hazards of these two countries are cyclones and floods, which are much-related phenomena. In addition, both countries significantly suffer from chronic drought. Mozambique is also in the unfortunate position of being downstream of major transboundary rivers and therefore is highly vulnerable to the water management strategies of its neighbours located upstream. Malawi's concerns relate to flooding, particularly in the Lower Shire Valley, while an inherent regular dryness characterises the agricultural economy. Earthquakes associated with the Rift Valley do occur and are periodically damaging. Meanwhile, the Union of Comoros is dominated by the volcano on Grand Comore Island. Sea level rise, flooding and periodic drought are also of concern to this archipelago. A rapid risk profile for each country is provided below.
P.

- *Madagascar*

As mentioned earlier, Madagascar is extremely exposed to cyclones originating in the Indian Ocean. One-quarter of the country's population, approximately 5 million people, lives in areas at risk of natural disasters, including tropical cyclones, storm surges, floods and drought.

Each year, an average of three to four cyclones make landfall on Madagascar. The most impacted areas are generally the eastern and western coasts. However, as a consequence of climate change, cyclones appear to have reduced in frequency but have intensified in power in recent

years; impacts are now also felt further north. In 2015, over 100,000 people were affected by flooding and the after-effects of tropical storms Chedza and Fundi. As a result, more than 70,000 people lost their homes.[10] Tropical Cyclone Ava struck Madagascar in January 2018, before the country could recover from the devastation caused by Cyclone Enawo in early 2017, when 434,000 people were affected. Cyclone Ava affected 161,000 people, of which nearly 15,000 were displaced. It also damaged 92 schools and many areas were cut-off due to subsequent flooding. In January 2018, 810,000 people have been classified at risk of food insecurity due to recurrent disasters with pockets of malnutrition, which reached the emergency thresholds; 2,603 cases of pneumonic plague have also been registered since August 2017, as a consequence of stagnant water.

Flooding is inherently associated with cyclones (which provoke heavy and tropical rains) and represents the second major natural threat to the country. Rains and flooding also cause landslides. Flood impact has been exacerbated by the effects linked with climate change as well as anthropogenic activities leading to deforestation, erosion and, more in general, to land degradation.

Another important climatic-related threat is drought. Climate change affects the regularity of rainfall and results in higher temperatures, with a major impact on agriculture. Dryer conditions are observed, especially in the south. In 2015, approximately 80,000 people were affected and food security heavily impacted.[11] According to UN Office for Coordination of Humanitarian Affairs (OCHA), 1,424,000 people are expected to be affected by floods and droughts in 2018 and 750,000 displaced as a consequence of climate change disasters.

Other natural threats that can be found in Madagascar are the risk of tsunami, fires, locust invasion and minor seismic events. There are also epidemics such as plague, Chikigunya (mosquito-borne viral disease), pandemic influenza, cholera and malaria.

Q.

- *Malawi*

The main natural hazards affecting Malawi are floods and drought. Studies indicate that climate change will continue to affect their incidence. Notably, the mean annual temperature in the country has increased by an average rate of 0.21°C per decade over the last 30 years. Flooding results in sediment deposits in river channels, reservoirs and floodplains. In turn, this causes catchment degradation, loss of arable land and damage to irrigation infrastructure. In 2015 the country was impacted by unprecedented flooding which affected more than 1.2 million people and destroyed agricultural fields and damaged key infrastructure leading to a massive loss in livelihoods.[12] In February 2017, a total of 35,304 people have been affected by flooding, of which 7,216 people were displaced.

Flash floods due to heavy rain are also recurrent, further stressing vulnerable communities. In February 2018, flash floods have affected 2,200 people in the district of Salima, Karonga and Phalamba. On 4 March 2018, flash floods in the City of Lilongwe impacted several informal settlements. In January 2018, 6 out of the country's 28 districts have been on high alert for cholera

[10] GFDRR country profile for Madagascar, https://www.gfdrr.org/sites/gfdrr/files/region/MG.pdf, accessed on 29 December 2016

1 [11] IRIN: DISASTER-PRONE MADAGASCAR BATTLES FLOODING AND DROUGHT, HTTP://WWW.IRINNEWS.ORG/ANALYSIS/2015/03/05/DISASTER-PRONE-MADAGASCAR-BATTLES-FLOODING-AND-DROUGHT, ACCESSED ON 29 DECEMBER 2016

[12] GFDRR country profile for Malawi, https://www.gfdrr.org/sites/gfdrr/files/region/MW.pdf, accessed on 29 December 2016

outbreaks due to the poor hygiene and sanitation conditions associated with climate change effects.

As consequence of climate change there are disrupting rainfall patterns with dry periods in the middle of the rainy season while drought spells are lengthening. Regarding flooding, the lower Shire River is particularly at risk. In that area people build their houses with clay which expands with increased humidity when settling closer to the river. Communities live close to streams due to their dependency on agriculture, fishing and other subsistence activities. Meanwhile flooding events are increasing because of deforestation and silting of rivers.

R.

- *Mozambique*

S.

Mozambique ranks third among the African countries most exposed to multiple weather-related hazards, suffering from periodic cyclones, drought, floods and related epidemics. Drought occurs primarily in the southern region, with a frequency of seven droughts for every ten years. Floods occur every two to three years, with higher levels of risk in the central and southern regions.[13] Major rivers flow into Mozambique so heavy rainfall in upstream countries often determines seasonal flooding, impacting on the large population living along the river banks and depending on agriculture activities. High profile events are the 2000 and 2013 floods especially in the lower Limpopo River and those of 2001, 2007 and 2008 in the lower Zambezi River. In February 2018, some 4,000 people were affected by extreme weather conditions (including lightning strikes, floods and strong winds) in northern and central regions. Recurrent floods in urban areas are caused by poor drainage, creating conditions conducive to malaria and cholera. Between August 2017 and February 2018, 1,800 cases of cholera were registered.

Due to the effects of climate change, rainy seasons have become more irregular, starting late and with an uneven distribution. As a result, cyclones are becoming more intense in recent years, the latest being in 2007, 2008, 2015 and 2017, and are affecting the population settled along the coastline of the country enduring high levels of poverty and livelihood conditions are difficult to sustain. In addition to the impact on housing and public facilities, especially affecting the roofing structures, cyclones have damaging effects on infrastructure. Storms and strong winds below cyclone strength also cause a lot of damages.

In February 2018, the government issued an “orange alert” for the southern region following severe drought, particularly in the Umbeluzi River basin in Maputo province. In the last four years (2014-2017), this basin has recorded below average rainfall and an increment in the rates of evaporation. The Pequenos Libombos dam, which is the main source of drinking water for the greater Maputo metropolitan area, is presenting therefore a critical situation. The dam is reported less than 20 per cent full. Water rationing has been imposed to more than 2.5 million people living in the capital city, Maputo, and surrounding urban areas, raising fears of disease outbreaks.

Hazards caused by anthropogenic interventions are deforestation and land degradation leading to soil erosion and desertification, mangroves depletion and bush fires. Sea level rise as potential threat linked with climate change is a great concern as Mozambique’s major cities are located along the coast.

[13] GFDRR country profile for Mozambique, https://www.gfdrr.org/sites/gfdrr/files/region/MZ.pdf, accessed on 29 December 2016

- *Union of Comoros*

The Comoros is a volcanic archipelago, with Karthala volcano dominating the Grand Comore, the main island. In 2005 an eruption of this volcano affected 245,000 people. Flooding occurs on a more regular basis and can have a serious impact, especially as a result of cyclones. The latter, as already explained, are a regional hazard which has intensified in power and reduced in frequency over recent years. Hence, as a result of climate change, stronger and irregular weather events are compounded over shorter time periods.

Climate risks listed in the country's National Adaptation Programme of Action (NAPA) include: both seasonal and acute drought; increased incidence of heavy rains and cyclones; and a rise in sea level. The latter, a clear consequence of climate change, represents one of the biggest threats. According to projections, sea level rise within the country may increase by 0.13 to 0.56 metres by the 2090's.[14] This potential hazard can be highly destructive as main settlements are located along the coast, and it is not likely to be contained by dykes.

Comoros' Initial National Communication to the United Nations Framework Convention on Climate Change (UNFCCC) also discusses the potential impacts of climate change in key sectors of the country, including: an expected increase in the occurrence of malaria; a decrease in crop yields, agricultural production and fisheries; and flooding and internal displacement.[15]

The overall vulnerability situation is worsened by salinization and poor water management, soil water logging (through volcanic ash), deforestation, soil erosion and landslides. Land degradation and the disappearance of around 400 acres of forest per year also have had a negative effect on the country's socio-economic development.[16]

b) Socio-economic context at country level

T.

U. Fast paced urbanisation is a reality for the four countries in the region. They show significantly high urban annual growth rates surpassing their overall population growth, indicating the increasing importance of the urban dimension in these countries (see Table 1). At the same time, local administrations face a capacity gap which is compounded by the weak coordination between the national, sub-national and local levels, and constrains the ability to adequately plan for, respond, and adapt urban and peri-urban areas to climate variability effects.

V.

W. *Table 1: Population & urban profile of the target countries - World Urbanization Prospects, 2016*[17]

X.	**Y. Total Population** (2016 Estimate)	**Z. Urban Population** (2016 Estimate)	**AA. Percentage Urban** (2016 Estimate)	**B. Urban Pop. Annual Growth Rate** (2010-2015)	**CC. Total Pop. Annual Growth Rate** (2010-2015)	**DD. Capital City and Population** (2014)

[14] Hilary Hove, Daniella Echeverría, Jo-Ellen Parry: Review of Current and Planned Adaptation Action: Southern Africa, p. 63

[15] Ibid

[16] Ibid

[17] United Nations, Department of Economic and Social Affairs, Population Division (2014). World Urbanization Prospects: The 2014 Revision, custom data acquired via website

EE.	**Madagascar**	**FF.**	24,915,000	**GG.**	8,905,000	**HH.**	35.7%	**II.** 4.69%	**JJ.** 2.79%	**KK.**	Antananarivo: 2,487,000
LL.	**Malawi**	**MM.**	17,802,000	**NN.**	2,929,000	**OO.**	16.5%	**PP.** 3.77%	**QQ.** 2.84%	**RR.**	Lilongwe: 867,000
SS.	**Mozambique**	**TT.**	27,781,000	**UU.**	9,031,000	**VV.**	32.5%	**WW.** 3.27%	**XX.** 2.47%	**YY.**	Maputo: 1,174,000
ZZ.	**Union of Comoros**	**AAA.**	788,000	**BBB.**	224,000	**CCC.**	28.4%	**DDD.** 2.67%	**EEE.** 2.40%	**FFF.**	Moroni: 56,000

GGG. A rapid socio-economic profile relevant to the project is provided below, country by country.

HHH.

- *Madagascar*

III.

JJJ. In 2016, Madagascar had an estimated population of 24,915,000, an average annual population growth rate of 2.8%, an urban share of the population of 35.7% and an average annual urban growth rate of 4.7%.[18]

KKK.

LLL. It is estimated that approximately five million people currently live in zones at high risk of natural disasters.[19] According to the Global Facility for Disaster Reduction and Recovery (GFDRR), the country has a low adaptive capacity, influenced by a high poverty rate, rapid population growth, high dependency on natural resources and weak institutional capacity. Adverse effects of flooding events are significant in urban areas due to: (i) a lack of early warning systems; (ii) inadequate urban planning; and (iii) poorly maintained drainage infrastructure.[20]

The country ranked 158th out of 188 countries in the United Nations 2016 Human Development Report and did not reach any of the United Nations Millennium Development Goals (MDG) by 2015. Between 1980 and 2014, Madagascar's life expectancy at birth increased by 16.1 years, mean years of schooling increased by 0.8 years and expected years of schooling increased by 2.5 years. Madagascar's gross domestic product (GDP) per capita decreased by about 35.5% between 1980 and 2014.[21]

The GDP was at USD 9.99 billion in 2016. A World Bank economic update reveals a slow economic recovery in 2015 due to a weak growth in tourism and mining sectors. Catastrophic meteorological conditions in recent years also took a toll on the economy, resulting in higher inflation and a reduction of household purchasing power. GDP growth is currently estimated at

[18] Ibid

[19] http://www.worldbank.org/en/country/madagascar/overview, accessed on 29 December 2016

[20] GFDRR country profile for Madagascar, accessed on 29 December 2016

[21] http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/MDG.pdf, accessed on 29 December 2016

around 3% and annual inflation rose to 7.6%. The country continues to rank poorly on the ease of doing business index: 164 out of 189 countries in the 2016 Doing Business Report.[22]

- *Malawi*

MMM.

NNN. In 2016, Malawi had an estimated population of 17,802,000, an average annual population growth rate of 2.8%, an urban share of the population of 16.5% and an average annual urban growth rate of 3.8%.[23]

OOO.

The country ranked 170th out of 188 countries in the United Nations 2016 Human Development Report[24], which put the country in the low human development category and did not reach any of the United Nations Millennium Development Goals by 2015.

PPP.

QQQ. Real GDP grew by 5.7% in 2014 but slowed down to 2.8% in 2015 as Malawi suffered from dual challenges of adverse weather conditions and macroeconomic instability. Flooding in southern districts followed by countrywide drought conditions saw a contraction in agricultural production.[25] Natural disasters have had serious impacts on Malawi's economic development. Drought and dry spells in Malawi cause, on average, a 1% loss of GDP annually. Additionally, an average loss of 0.7% of the annual GDP is due to the flooding of lakes and the overflowing of rivers.[26]

Poverty and inequality remain high in Malawi. The 2010/11 Integrated Household Survey showed that over half of the population was poor and one quarter lived in extreme poverty. These numbers have changed much when analysing 2017 data. Poverty has been increasing in rural areas where 85% of the population lives, compared to urban areas where it fell significantly from 25 to 17%.[27]

RRR.

- *Mozambique*

SSS.

TTT. According to the preliminary data of the 2017 Census, Mozambique had an estimated population of almost 29 million people. UNDESA (2014) estimates an average annual population growth rate of 2.5%, an urban share of the population of 32.5% and an average annual urban growth rate of 3.3%.[28]

UUU.

VVV. Mozambique's Human Development Index (HDI) value for 2016 is 0.418 - which puts the country in the low human development category - positioning it at 181 out of 188 countries. Between 1980 and 2014, Mozambique's gross national income per capita increased by about 106.8% between 1980 and 2014[29]. Nevertheless, Mozambique's rapid economic expansion

[22] http://www.worldbank.org/en/country/madagascar/overview, accessed on 29 December 2016

[23] United Nations, Department of Economic and Social Affairs, Population Division (2014). World Urbanization Prospects: The 2014 Revision

[24] http://hdr.undp.org/sites/default/files/2016_human_development_report.pdf, accessed on 7 April 2018

[25] http://www.worldbank.org/en/country/malawi/overview, accessed on 29 December 2016

[26] GFDRR country profile for Malawi, https://www.gfdrr.org/sites/gfdrr/files/region/MW.pdf, accessed on 29 December 2016

[27] Ibid

[28] United Nations, Department of Economic and Social Affairs, Population Division (2014). World Urbanization Prospects: The 2014 Revision

[29] GFDRR country profile or Mozambique, https://www.gfdrr.org/sites/gfdrr/files/region/MZ.pdf, accessed on 29 December 2016

over the past decades has had only a moderate impact on poverty reduction, and the geographical distribution of poverty remains largely unchanged.

WWW.

XXX. Mozambique also needs to improve its social indicators. For instance, the social progress index for access to improved sources of water and sanitation ranks Mozambique 128th and 119th, respectively, out of 135 countries. Indeed, Mozambique has one of the lowest levels of water consumption in the world despite being endowed with a variety of water sources.[30]

YYY.

ZZZ. World Bank projections place economic growth at 3.6% for 2016, with significant downward risks. The discovery in April 2016 of previously undisclosed debt worth almost $2 billion, over 10% of Mozambique's GDP, combined with the impact of the exchange rate depreciation have led to a substantial increase in debt ratios. As a result, the fiscal position is likely to remain under stress until the end of the decade.

AAAA. In the short term, adverse climatic conditions, brought on by La Niña, are a risk. Should this materialise, the costs of flood damage and impact on food production would pose a major challenge to food security and livelihoods.

BBBB.

- *Union of Comoros*

CCCC.

DDDD. In 2016, the Union of Comoros had an estimated population of 788,000, an average annual population growth rate of 2.4%, an urban share of the population of 28.4% and an average annual urban growth rate of 2.7%.[31]

EEEE.

FFFF. Comoros has a dense population of about 390 inhabitants per square kilometre. More than half of the population (53%) is younger than 20 years of age.[32] Its HDI rank was 160 out of 188 countries in 2016, which puts the country in the low human development category.[33] Progress has been made on several of the Millennium Development Goals. However, one of the most important challenges will be to halve the proportion of people who suffer from hunger.

GGGG. According to the World Bank, citing the most recent Household Budget Survey for 2014, 42.4% of the population (around 320 thousand people) is poor, with real monthly consumption per capita below the national poverty line. Around 18% of the population lives below the international poverty line of US$1.9 per capita per day, in 2011 Purchasing Power Parity (PPP) exchange rate. The World Bank projections indicate slow progress in poverty reduction until 2018, due to stagnant economic growth.

HHHH. Recent economic developments point to a deteriorating economic situation as growth slows and the Comorian franc depreciates against the US dollar. Comoros has a small and undiversified economy. While the economy had showed signs of recovery after years of political instability, achieving an eight-year high in terms of economic growth at 3.5% in 2013,

[30] http://www.worldbank.org/en/country/mozambique/overview, accessed on 29 December 2016

[31] United Nations, Department of Economic and Social Affairs, Population Division (2014). World Urbanization Prospects: The 2014 Revision

[32] http://www.worldbank.org/en/country/comoros/overview, accessed on 29 December 2016

[33] http://hdr.undp.org/sites/default/files/2016_human_development_report.pdf, accessed on 7 April 2018

conditions since then have deteriorated with growth slowing from 2.1% in 2014 to 1% in 2015.[34]

c) City level contextualisation

IIII.

As mentioned earlier, the focus of this project proposal is on building urban climate resilience in four countries in south-eastern Africa: Madagascar, Malawi, Mozambique and the Union of Comoros. Although adaptive capacity will be strengthened through planned activities at the regional and national levels, the main entry point for this project is at the city level. Once again, four urban settlements were selected for this purpose: Morondava (Madagascar), Zomba (Malawi), Chokwe (Mozambique) and Moroni (Union of Comoros).

A participatory assessment and planning process using the City Resilience Action Planning (CityRAP) Tool (which will be described in more detail later) was conducted in all four cities from 2015 to 2017 to identify the vulnerable communities that would most benefit from climate resilience building activities. The use of this tool allowed the targeted municipalities, jointly with the selected communities at the neighbourhood level, to assess their vulnerabilities and prioritise key interventions for climate adaptation.

A detailed profile of each of the four cities is provided below.

- ***Morondava, Madagascar***

Socio-economic background

The city of Morondava lies on the south-western coast between the Mozambique Channel and the Morondava River Delta (see figure 5) and is the capital of the Menabe Region. Today, Morondava has an estimated population of 60,000 inhabitants and is urbanising very rapidly, with a relatively young population (approximately 60% are younger than 25, while only 3% are older than 60). In fact, it registered the highest annual population growth (5.2%) in the Menabe Region, resulting in several urban development challenges. Approximately 45% of the neighbourhoods are considered informal and 25% of the inhabitants live below the national poverty line. The city's population shows a gender-balance with 50.7% of women against 49.3% of men.

As the capital and main urban centre of the Menabe region, Morondava shows some economic potential in the areas of commerce and services, tourism, craft, agriculture and livestock. Located near the renowned Baobab Avenue, which receives visitors from all around the world, the city has plans to develop its touristic potential.

[34] http://www.worldbank.org/en/country/comoros/overview, accessed on 29 December 2016

Figure 5: Map of Madagascar showing the location of Morondava – Extracted from www.nationsonline.org

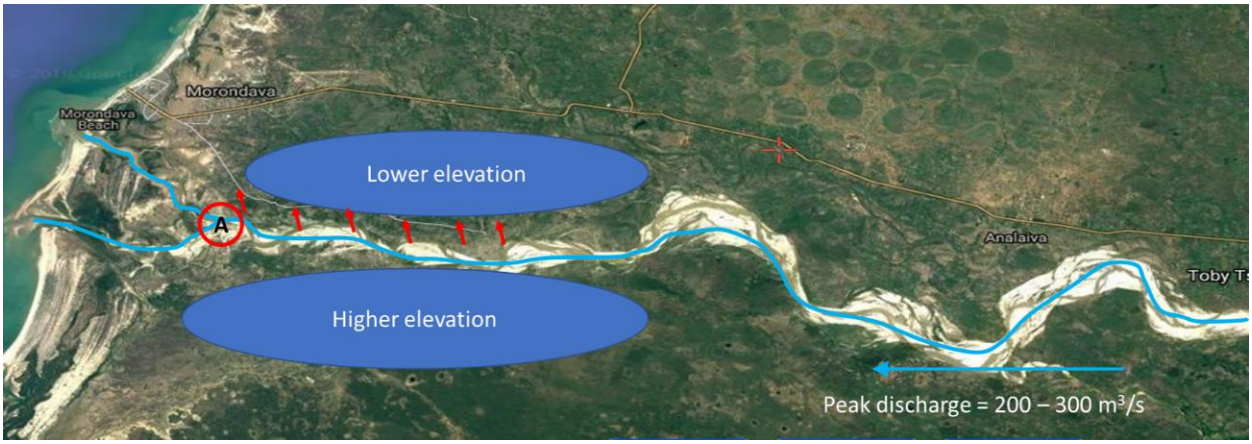
Geographical context and exposure to natural hazards

As a coastal city positioned in the middle of a delta, Morondava is surrounded by water (see figure 6). It is crossed by two rivers called Morondava and Kabatomena. The Morondava River splits in two branches. Its mouth is located about 5 km north of the city boundary in an unpopulated area. There is little or no water flow in the river bed during the dry season.

Figure 6: Map of Morondava

The Kabatomena River is located south of the city (see Figure 7). During the dry season it discharges about 7-10 m^3/s and during the wet season and/or storms the discharge reaches 200-300 m^3/s. Kabatomena is an alluvial river made of sandy banks which, with high discharges, are eroded and the sand is transported to the river mouth. During high discharges the water overflows the riverbanks and due to the lower elevation north of the river, the water then flows towards the city.

Figure 7: Site description of Kabatomena River



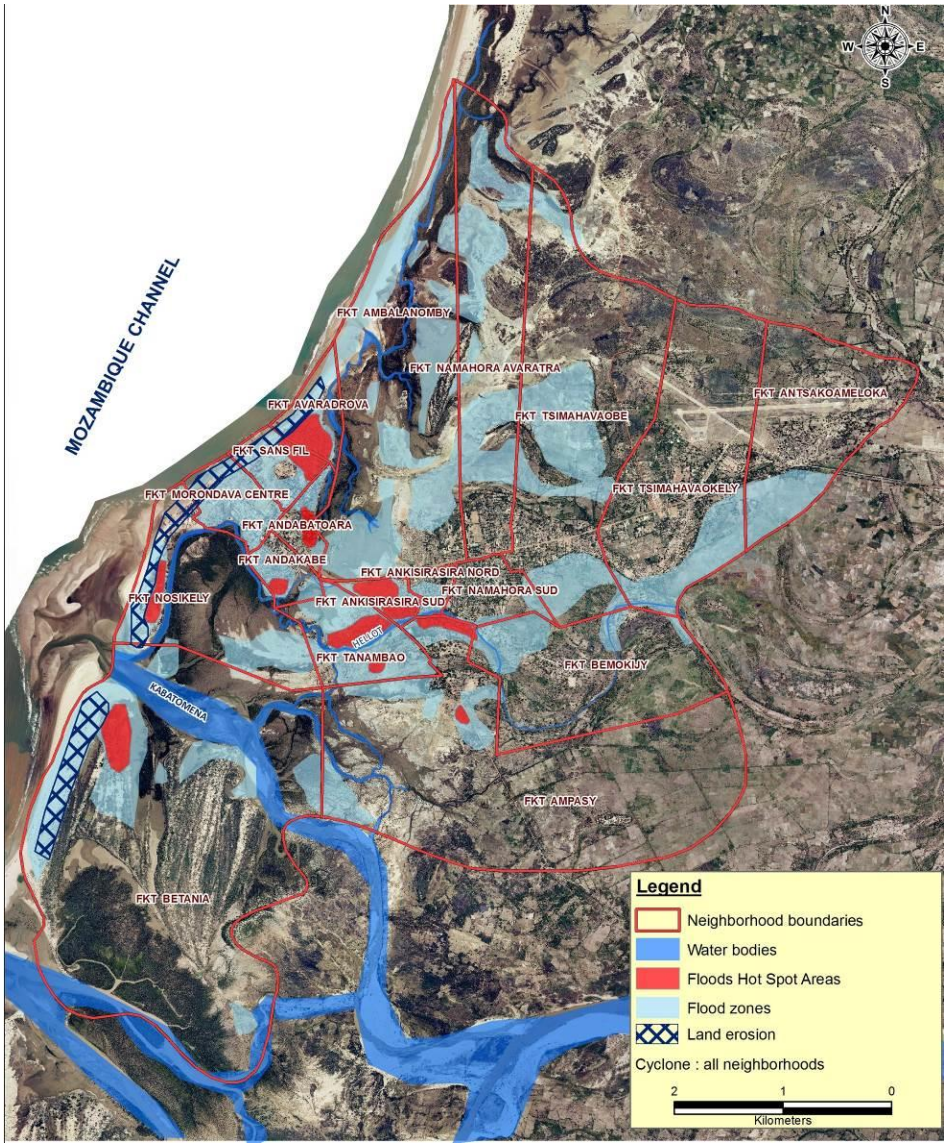
The western part of the city is located adjacent to the sea (with an eroding coast). In general, along the coastal stretch of Morondava, the main flooding type is swelling. According to several local sources, moderate to low wave conditions are observed during normal conditions. During cyclones, the estimated wave height can be up to 2 metres and swell waves have more strength. Swell waves are wind generated waves that are transformed into longer, faster, lower and more regular waves due to a process called frequency dispersion and frequency dependent damping.

The map presented in figure 8 summarises the locations impacted by the main natural threats affecting the city. As result of the explained upstream and downstream factors, extreme weather events cause major floods in both the northern and southern sides of the city, especially in the neighbourhoods close to the Hellot channel (see location of the channel in figure 6). The neighbourhoods of Ankisirasira, Tanambao (South-East), and Avaradrova and Sans Fil (West) are the worst affected.

The most recent disastrous event to affect the city was caused by the landing of Cyclone Chendza on 16 January 2015. The tropical cyclone resulted in heavy rains that caused severe flooding, affecting more than 62,000 people in Madagascar. Morondava was the second most affected city in the country in absolute numbers (and the most affected one in terms of proportion of the population) with more than 16,000 persons impacted and 3,184 displaced.[35]

The city also regularly experiences severe flooding during high tides, a phenomenon already increasing in intensity, which will worsen due to sea level rise. In the past 50 years, the coastline has retreated about 1 km. This caused the main city boulevard and many buildings to be swallowed by the sea. Flooding of low lying areas is reported on a fortnightly interval, correlating to neap tide cycles. During high tides seawater enters the river mouths.

Figure 8: Risk map of Morondava city



Figures 9 and 10: Impacts of Cylone Fanele on housing in 2008

[35] http://reliefweb.int/sites/reliefweb.int/files/resources/Madagascar%20MDRMG011.pdf


Key issues to be addressed

The risks threatening Morondava city are related to its complex water system, and are compounded by several characteristics that increase the vulnerability of its population. The key issues to be addressed to build Morondava's climate resiliency are:

- *Expansion of informal settlements in high risk areas:* the rapid growth of the city results in an increased number of people living in high risk areas, especially the urban poor. Most of these settlements at risk are informal with low housing quality, thus highly vulnerable to the impacts of floods and strong winds.

Figures 11 and 12: Informal settlements in Morondava


- *Limited access and mobility:* The city is spatially divided into two main areas, the historic and colonial centre in the west and the urban agglomeration in the east that followed the major traffic infrastructure. These areas are connected by one road in the middle that forms the main connection between the two sides (see the circled road in figure 6 above). The road is surrounded by flood plains in the north and south and is therefore crucially important in case of emergencies. The area around this road used to be covered by mangrove trees but due to woodcutting this is no longer the case, making the road more vulnerable to cyclones and related floods. In addition, few bridges cross the Hellot channel which connects the southern and northern neighbourhoods. These bridges are crucial in case of an evacuation of the southern neighbourhoods, but are currently in poor conditions (see figures 13 and 14).

Figures 13 and 14: Bridges crossing the Hellot Channel


- *Poor drainage conditions:* the city has a drainage system consisting of the Debara Channel, the Hellot Channel and secondary channels. All channels have a relatively small cross sectional area (see figures 15 and 16). The Dabara channel is made for maximum discharges of 12 m^3/s. Secondary channels are approximately 4.5 km long, as is the Hellot Channel. The latter crosses the southern part of the city centre and functions as the main flood drainage channel. The downstream section of the Hellot channel is influenced by the sea tide. With the rising tide seawater flows into the channel, while during low tide and with limited discharge from upstream, the channel almost runs dry. Increased sedimentation (from the Kabatomena River, which carries the bulk of sediments into the Hellot channel) has critically reduced the drainage capacity, resulting in higher floods levels.

Figures 15 and 16: Drainage conditions in Morondava


- *Inefficient solid waste management:* as shown in figures 15 and 16, drainage channels are most often filled up with sediment and solid waste. In particular, high tides cause problems in the neighbourhoods located along the Hellot Channel, when the seawater enters the secondary drainage system coming from the city centre. This causes stagnation or overflow of sewage water filled with solid waste (as waste management is still lacking and a large proportion of the population still practices open air defecation), leading to public health risks (i.e. infections and acute diarrhoea) especially for children and the most vulnerable.
- *Mangrove deforestation:* mangrove areas have been cut down for fuel wood purposes. This has detrimental effects on several fronts. With regard to the ecosystem, deforested areas

show less fauna density and decreased biodiversity. In Morondava, the loss in crab and prawn population can already be witnessed today. This is impacting on fishing with clear negative economic and livelihood repercussions for the fishermen of Morondava. With regard to adaptation, mangroves play an important function as flood buffers and protection from coastal erosion.

Figure 17: Mangrove trees located in the intertidal area near the Kabatomena river mouth

- *Lack of disaster preparedness:* the municipality has insufficient capacity and resources to operationalize its plans aiming at rehabilitating and developing the necessary infrastructure to be prepared and timely respond to flood or cyclonic risks. The situation is aggravated by the absence of an early warning system, the lack of accessible evacuation routes in vulnerable areas and the absence of safe havens (NB: a new legislation adopted in 2017 does no longer allow to take shelter in schools).

➢ ***Zomba, Malawi***

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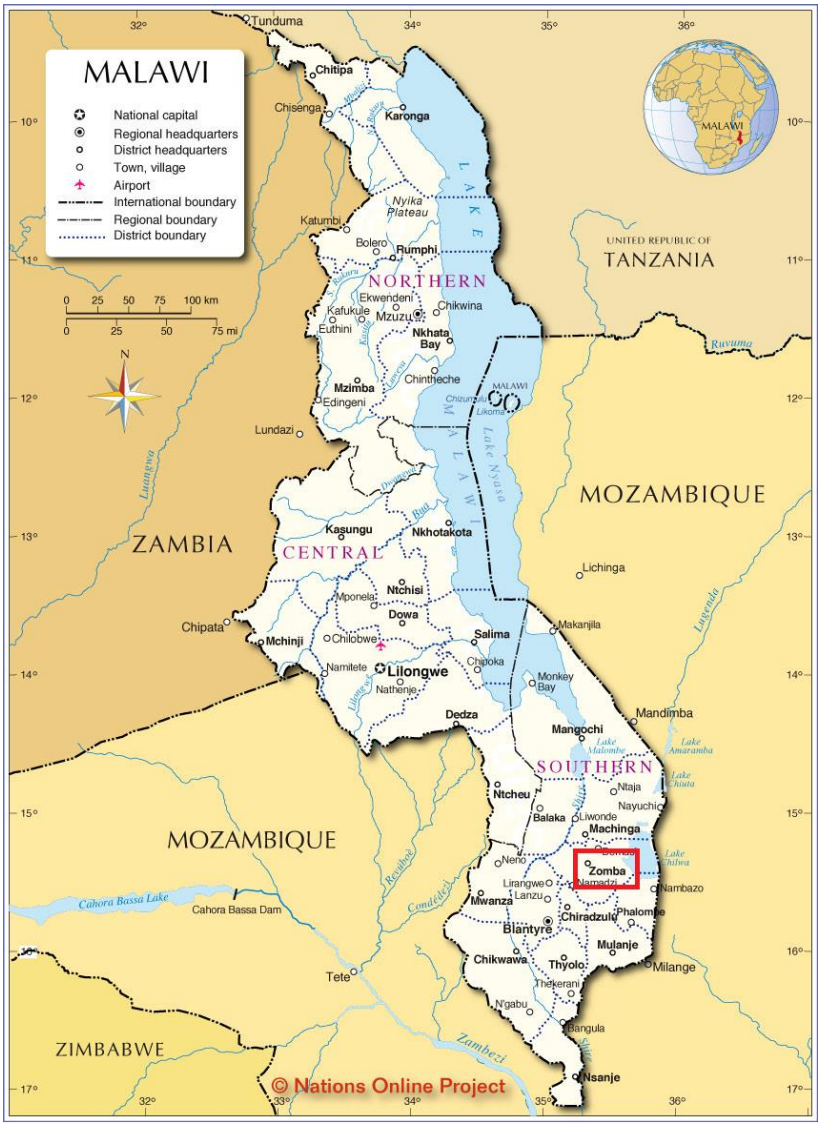
Socio-economic background

The city of Zomba is located in the southern part of Malawi, some 70 km northeast of Blantyre, on the foot of Zomba Plateau (2,085 m above sea level) – see figure 18. It was Malawi's first capital city before this was moved to Lilongwe in 1975. It has a 2017 population of 156,022 and an annual growth rate of 3% as projected by the National Statistical Office in 2011. Like other cities in Malawi the population is relatively young, with 73% of its population under 30 years of age. Socially, the religions live peacefully next to each other with a majority of Christians (78.2%), followed by Muslims (13.7%) and other religions (8.1%).

Figure 18: Map of Malawi showing the location of Zomba – Extracted from www.nationsonline.org



Poverty and unemployment are both high in Zomba (the unemployment rate is 59.1% and poverty levels show 16.3% as 'poor' and 3% as 'ultra-poor'[36]). Approximately 70% of the city's population lives in slum conditions characterised by poor housing design and building materials, limited access to basic services and infrastructure, and high exposure to natural hazards.[37]

Geographical context and exposure to natural hazards

The city is located at the foot of the Zomba Plateau, which dominates the city on its north-western side and is the source of important rivers (Likangala and Mulunguzi) running through the city. The slopes of the plateau above the inhabited locations have experienced erosion and landslides. As a consequence, the top soil was removed, exposing rocks and making the slopes unstable.

[36] Malawi Integrated Household Survey, National Statistics Office (NSO), 2011

[37] Malawi NSO, 2010

The topography of Zomba is further dominated by several hills surrounding the city and some within the city. From these hills (mainly in the north towards Zomba Plateau and south), small streams connect to the main Likangala River, which flows through the city centre from west to east. Meanwhile, the Mulunguzi River, which originates from Zomba Plateau, flows through two of the wards in the north-east of the city.

During the rainy season, increased water run-off in up-hill areas into the rivers flowing through the city causes flooding. In particular, Likangala River is the source of most floods and disasters, as it flows through densely populated areas.

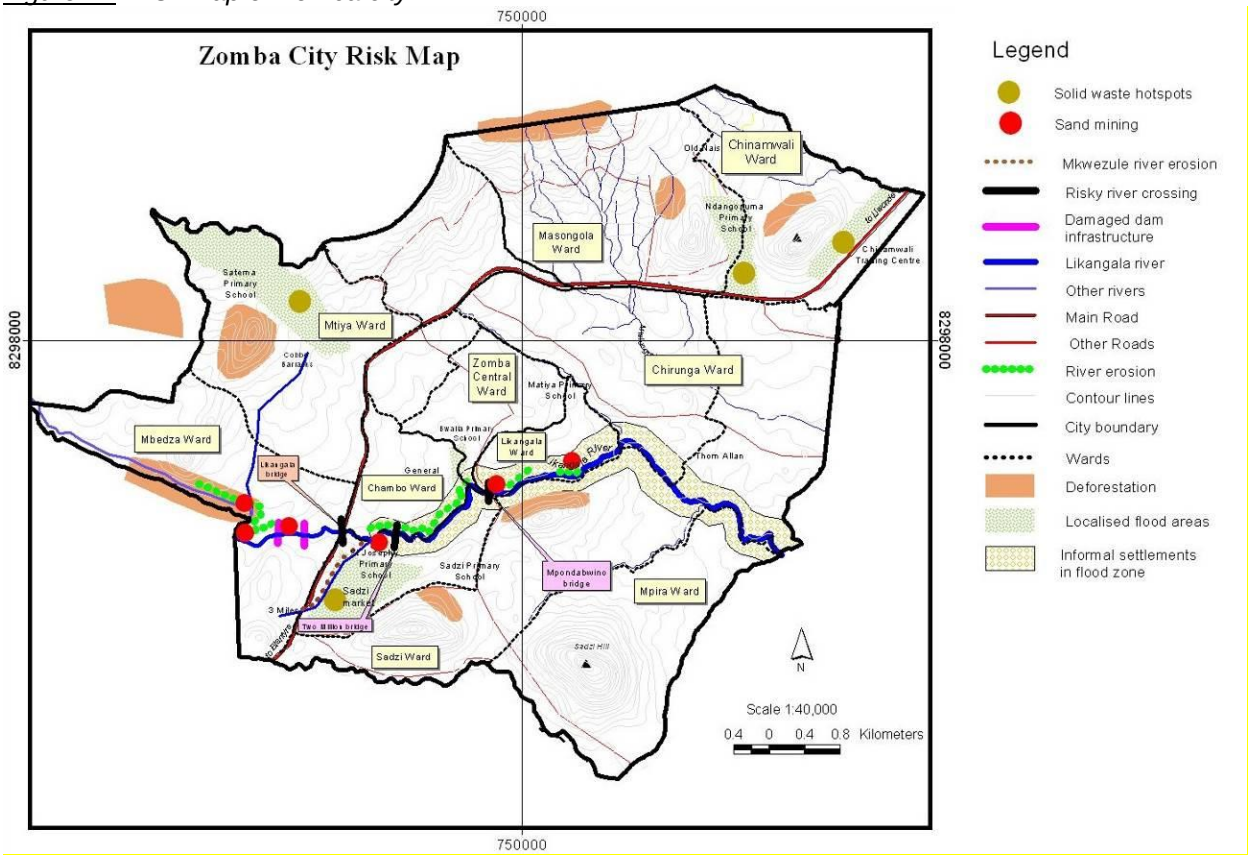
Figure 19: Map of Zomba – Extracted from www.googlemaps.com

The risk profile of Zomba includes flooding, cyclones and strong winds. Since the city is located in the African Rift Valley, it is prone to earthquakes. There are also bush fires occurring, especially in the Zomba Plateau and its forests. Soil erosion, gully development, landslides and rock avalanches are common and to a certain extent linked to deforestation, which causes land degradation. This has become very apparent in 1946, when a landslide killed hundreds of people. The most recurrent natural hazard in Zomba is flooding. The 2015 floods damaged/destroyed 1,883 houses (mainly those made of mud) and displaced 8,713 people (see images of the event in figure 20).

Overall, these hazards are causing severe damage to housing, property and assets resulting in cascading disruptive effects such as food insecurity, malnutrition, health/hygienic problems, increased poverty and vulnerability, especially for women and children. Importantly, main public infrastructure is threatened, such as: Ndangopuma primary school and roads in Masongola Ward; St. Joseph primary school, St. Peter's seminary and roads in Sadzi ward; Satema primary school and roads in Mtiya ward; and Chiperoni primary school and Malindi secondary school in Likangala ward.

Figure 20: Likangala River at Mboga riverside lodge during and after the 2015 floods

Figure 21: Risk map of Zomba city



Key issues to be addressed

- *Deforestation:* more than 80% of Zomba's population use firewood and charcoal for cooking, which is extracted through wood cutting from the Zomba Plateau, the surrounding hills and along the streams and rivers within the city (see figures 22-23). This is because other sources of cooking fuel, such as gas or electricity, are too expensive for the majority of the urban poor, resulting in heavy deforestation and environmental degradation. Deforestation is threatening not only the catchment of the local rivers, but also increases the risk of a repeated landslide. Housing units built in precarious positions at foot of slopes are at risk of the full onslaught of flood waters and debris, from minor flows to full-scale landslide recurrence.

Figures 22 and 23: Deforestation in Zomba

- *Uncontrolled urban development in hillsides and flood prone areas:* Expanding settlements, agriculture, increasing population and urbanisation are putting severe pressure on the integrity of the ecosystem. Developments and deforestation are increasingly observed on mountain sides, thus badly impacting on the vulnerability of those developments and surrounding areas. New settlements have been sprouting along and close to the banks of the Likangala River. Although existing urban zoning does not permit settling close to rivers, low enforcement capacity by the city council and poor community advocacy has increasingly seen encroachment of settlements on the river banks (see figure 24). This is coupled with low awareness on climate change adaptation and mitigation at the household, community and council levels. Consequently, river bank erosion 9also worsened by sand mining), soil degradation and gully growth are happening at a fast speed. Flash floods and landslides along the slopes and river banks are common and are putting people at risk, especially the most vulnerable.

Figure 24: Encroachment of settlements near the Likangala River

- *Poor drainage:* Informal settlements considerably lack adequate drainage solutions. These are quickly (and informally) introduced through haphazard coping mechanisms such as stone walls and self-made drainage, which are not sustainable. These ad hoc improvised drainage interventions actually increase or transfer risks to other locations, re-directing the flow of water to neighbouring houses and resulting in social conflicts. Road infrastructure has been improved in recent times, with some integration of drainage. However, many drains are blocked through indiscriminate dumping of solid waste as well as naturally-occurring siltation. Drainage is particularly poor in Mitya, Sadzi, Chambo, Masongola and Chinamwali wards.

Figure 25: Effects of a relatively moderate rainfall event in Zomba

- *Inefficient solid waste management:* Due to the limited capacity of the city council in terms of human resources and equipment, waste management services are only available in the high-income areas and the city centre. The city council has just one operational waste collection vehicle. Waste collection is critically lacking especially in informal areas and in areas with high population density, specifically Chambo, Chinamwali, Likangala, Masongola, Sadzi and Mpira wards.

  The households in these poor urban areas dispose of garbage in drains and streams, or burn it along the roadside. This has created a growing rubbish problem, which is aggravating flood effects due to clogged drainage and greatly polluting the environment, thus adding additional threats to the health of vulnerable groups as women and children. Water stagnation gives rise to mosquito-borne diseases in all the above-mentioned areas. Malaria cases affect 70-80% of the inhabitants. Flood events also impact the sanitation system, causing pollution to enter the drainage system, aggravated by the collapse and flooding of pit latrines used by most of the households.

  Disease outbreaks have been experienced (cholera) due to poor waste management and blocked drainage at Chinamwali market. The market areas lack skips and waste bunkers and become public health threats, especially for women who spend the majority of their time in markets for buying/selling. This becomes most apparent in Komboni market near the Zomba Central Hospital in Chambo ward. The solid waste landfill site is located on the western side approximately 5 km away from the city. The composition of waste is 80% organic and biodegradable, yet there is currently nor recycling neither composting of waste being undertaken.

- *Lack of early warning system and safe havens:* The gravity and impact of any flood event in the city is aggravated by the absence of an early warning system. Flooding appears rapidly and unexpectedly downstream, while the high flood wave could be detected some distance upstream. When it reaches the city, the flood wave has increased in size and speed, catching

river users and households within the flood area by surprise. Women, children and the elderly are therefore among the most affected. Households are generally reluctant in leaving the house and evacuate since they are concern that someone will steal their goods, hence increasing their situation of vulnerability. Furthermore, there is a lack of resilient housing and public buildings (e.g. none of the schools are built to withstand the effect of flooding). Skills and awareness for resilient construction are generally absent. In the face of lacking evacuation centres, schools are currently being used as makeshift evacuation centres, causing disruptions in schooling for children.

Figure 26: Typical housing construction standards in Zomba

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- ***Chokwe, Mozambique***

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Socio-economic background

According to the 2007 census data, the municipality of Chokwe had at that time a total population of 61,666 people[38]. Chokwe city shows a rapid development (approx. 5% per year) and is often considered to be the economic capital of Gaza province, considering its important agricultural potential (NB: 40% of Mozambique's irrigated lands are located around Chokwe, with the most important production of rice and tomatoes). About 60% of the population lives beneath the poverty line. Life expectancy is around 44 years of age, whilst child morality reaches the number of 107 every 1,000 births. These numbers are higher than the national average.

Chokwe's population has a high dependency on agriculture, a sector where currently 80% of the active labour force is working. In a country where most of the food is imported from neighbouring countries, a fertile area like Chokwe has a crucial importance. There are other economic activities like food industry (cattle), clothing and commerce, however economic diversification remains low. Most of the city's economy is informal.

Urbanisation takes place mostly in a chaotic and unplanned manner. New urban areas are informal and characterised by precarious housing conditions: 55.7% of the population live in houses made of reed, sticks and palm trees, whereas 44.3% live in so-called conventional housing.

[38] National Institute of Statistics (INE), 2017

Figure 27: Map of Mozambique showing the location of Chokwe – Extracted from www.nationsonline.org

Geographical context and exposure to natural hazards

Chowke is located in southern Mozambique in Gaza Province, along the lower Limpopo River (see figure 27). Due to its location and low lying lands/flat terrain, Chokwe is susceptible both to fluvial and rain flooding.

In terms of risks, the city is exposed to the impacts of drought, recurrent cyclones, storms, and especially flooding. The area is considered one of the most exposed to natural hazards in the country[39]. Chokwe is experiencing cyclical flooding from the Limpopo River. Interviews with local engineers and consultation with the local community made clear that also pluvial flooding (flash floods) occurs frequently. Extreme downpour with a yearly return period (T=1) has an intensity of 500 mm in 4 hours.

[39] Silva, J.; Eriksen, S. and Ombe, Z.A. (2010) Double exposure in Mozambique's Limpopo River Basin, The Geographical Journal, Vol. 176, No. 1, March 2010, pp. 6–24,

Figure 28: Map of Chokwe – Extracted from www.googlemaps.com

The periodicity and the magnitude of the floods in the area have varied throughout the years, ranging from small occurrences to catastrophic events, notably the 2000 and the 2013 flood events, during which the entire population of the city was affected (see figures 29, 30 and 31). In 2000 and 2013 inundation levels of 2 meters were measured within the urban area. In 2000, the floods displaced 250,000 people living in the lower Limpopo region and caused over 700 deaths[40].

Figures 29 and 30: Chokwe floods, January 2013

40 Brouwer, R. and Nhassengo, J. (2006) About bridges and bonds: community responses to the 2000 floods in Mabalane District, Mozambique, Disasters, Vol. 30, No 2, pages 234-255

Figure 31: Flood extent in 2013 (Source: UNITAR/UNOSAT)

Key issues to be addressed

- *Non-functioning drainage system:* as the terrain in Chokwe is flat, a storm water drainage system is required. Currently, this system is malfunctioning, mainly due to insufficient coverage and blockage of drains and discharge pipes. This has been particularly detrimental for unplanned neighbourhoods and significantly impactful on vulnerable and marginalised groups (poor, children and the elderly) during flood events. Drainage issues are aggravated by ineffective and inappropriate local coping mechanisms, such as the re-directing water flows to neighbouring houses through self-dug drainage ditches. Due to the relatively flat location and dysfunctional or non-existing drainage, it takes weeks before flood water recedes. This situation causes severe disruption of all aspects of daily life during flood times: income generation, food security, education and health (due to water borne diseases).

  The drainage system of Chokwe relies heavily on two main channels, one on the north and one on the south of the city. Both channels are intersected by the local irrigation channel, which is situated in between the Limpopo River and the city. To allow storm water to pass the irrigation channel in order to reach the Limpopo River, two underground crossings have been constructed (see numbers “1”and “2” in figure 32).

  The underground crossings are done with several pipes equipped with check valves (see sketch in figure 33). The functioning of the whole drainage system of the city is dependent on these two crossings. Crossing “1” is operating normally. Crossing “2” is not functioning (see figure 34). The pipes have collapsed, and the inlets are silted up. As a result, the main drainage channel to the south (indicated as number “3” in figure 32) cannot properly drain the collected storm water, leading to prolonged flooding after cloudbursts and fluvial flooding events.

Figure 32: Structure of Chokwe's drainage system

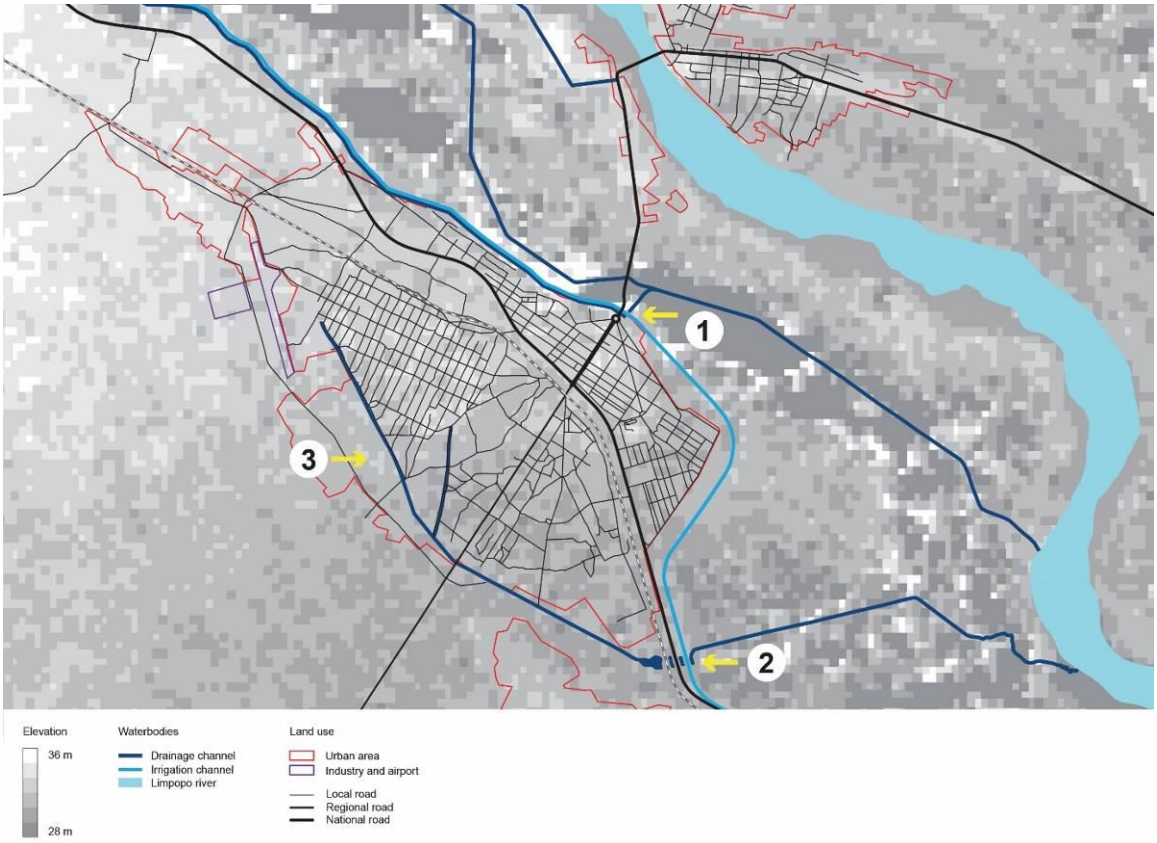

Figure 33: Conceptual sketch of underground drainage crossings connecting in Chokwe

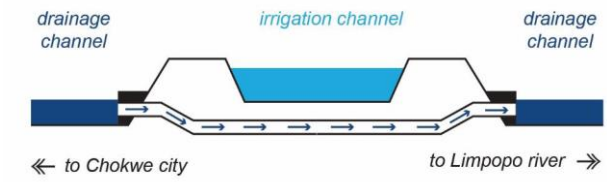

Figure 34: Detail of crossing "2" where the pipes going under the irrigation channel are collapsed

- *Inefficient solid waste management*: Chokwe faces great challenges to manage increasing solid waste disposal because of its growing population. Currently, there are limited capacities for collection, transportation and disposal or recycling. As a result, local habitants tend to discard their rubbish haphazardly or in sporadic landfill sites created and utilised as informal disposal zones. This informal waste disposal sites are rarely collected by the Municipality resulting in growing landfill sites (see figure 35). Waste accumulation has affected drainage capacity, with ditches and channels being often overflowing with various types of rubbish (see figure 36). Strong rain water and even mild flooding can therefore result in high health and safety risks for the inhabitants, especially for the most vulnerable ones.

Figures 35 and 36: Solid waste management challenges in Chokwe, affecting the efficiency of the drainage system

- *Lack of an efficient early warning system and access to safe havens:* Despite the several flood events that affected the city, Chokwe is still lacking an effective early warning system and accessible safe havens in case of floods. Communication is underdeveloped and inaccessible, whereby 0.8% of the population has a telephone landline, 0.6% has access to a computer, and 18% possess a TV. Radio is the main means of communication, used by 47% of the households (see figure 37 and 38).

Figures 37 and 38: Elevated radio station built by UN-Habitat after the 2013 floods, so that it can continue functioning and alerting the local population in case of major floods

There are implications in the inherent inability to warn of impending flood events, throughout the local communities and/or via the existent early warning system in place regionally. This was observed during the 2013 flood event. A warning and a call for evacuation was aired on the radio, albeit reaching a limited amount of people.

In some cases, as it occurred for the 2000 floods, the gravity of the situation was not understood or believed or not communicated effectively. Fluvial flooding is still not well understood by a large part of the population. For example, the lack of local rainfall during the 2013 floods that affected the city gave a false perception of safety and non-criticality. As such, many chose not to evacuate, especially women.

In addition, the lack of evacuation centres or safe havens reduces the ability to manage a flood emergency situation, putting many at risk. During both the 2000 and 2013 flood events, the majority of the city's population escaped to higher locations such as rooftops (see figure 28), where they had to wait until they were rescued and taken to a safer location by rescue teams.

- ***Moroni, Union of Comoros***

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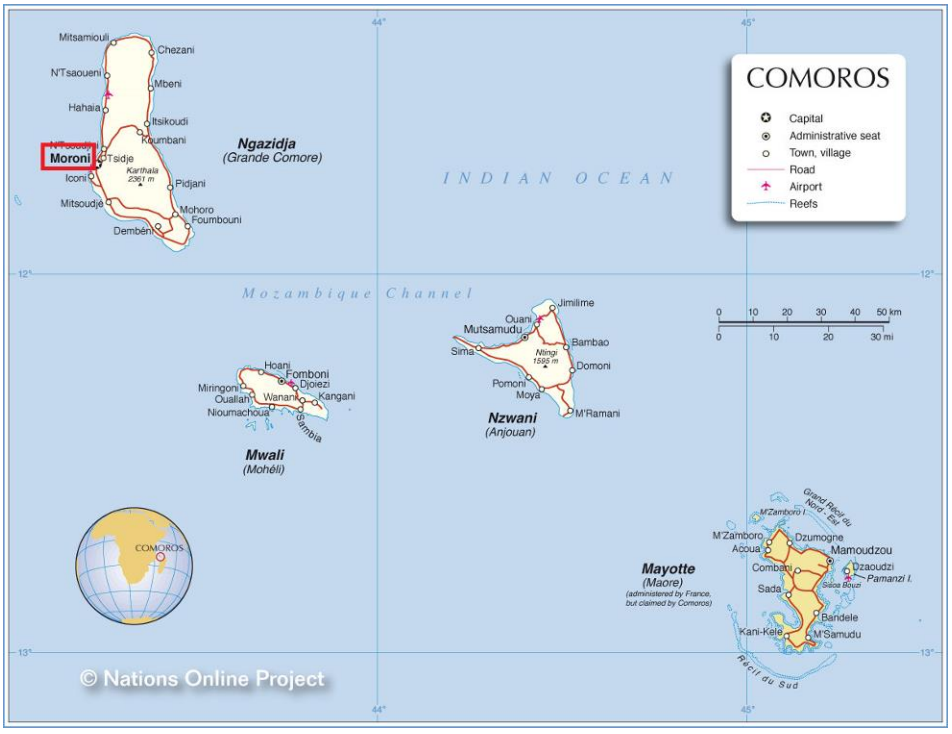
NNNN. Socio-economic background

The city of Moroni is located in Ngazidja island (also called Grande Comore island), one of the four islands of the Comoros archipelago (see figure 39). It is the largest urban centre of the country and the capital city since 1958. The population of Moroni is rapidly growing from 37,800 inhabitants in 1991 to over 55,000 in 2016 with an annual growth rate of 2.1%. Youth represent 53% of the population, with 42% being under 15 years old.

The poverty rate is high in Comoros (45.6% of the total population), especially in urban areas, and the informal sector is omnipresent. There is also an important unemployment rate in particular among young people (25% between 15 and 29 years old) and women (18.5%). This socio-economic profile strongly limits the capacity of poor communities to anticipate and respond to the adverse effects of climate change due to limited financial and human resources. Most of the population is Sunni Muslim, and a small minority (2%) is Roman Catholic.

Figure 39: Map of Comoros showing the location of Moroni – Extracted from www.nationsonline.org



Geographical context and exposure to natural hazards

Located at the foot of Mount Karthala, a 2361-meter volcano of which the last four eruptions were between 2005 and 2007, Moroni is built on lava stone in the main island of the Comoros archipelago (NB: the 2005 eruption affected 245,000 people). Some relatively new neighbourhoods, such as Coulee-Sahara, are built on lava flows from the 1985 eruption. Although the city is at risk of future eruptions, it is unlikely lava flows will follow the same paths as before.

One of the biggest climate-related threats for the city is sea level rise and subsequent coastal erosion. Projections for the country show a possible increase from 0.13 to 0.56 m by 2090[41]. Otherwise the most recurrent natural hazards affecting Moroni are cyclones and floods, resulting in damages and casualties.

In addition, heavy rains result in flash floods in the city. The combination of a long and steep slope of the Karthala volcano combined with a large catchment area (above Moroni) and heavy rains (up to 500 mm in a day) result in large amounts of water running down, even during short rainfall events. The lack of infrastructure to drain or channel the water flow aggravates the situation.

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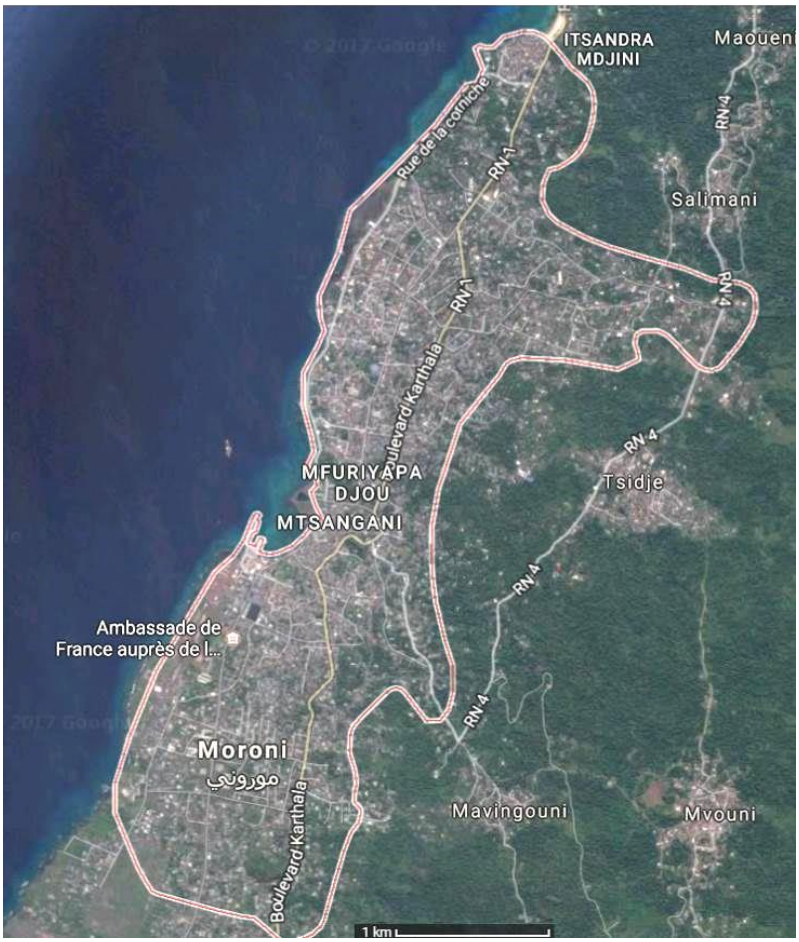
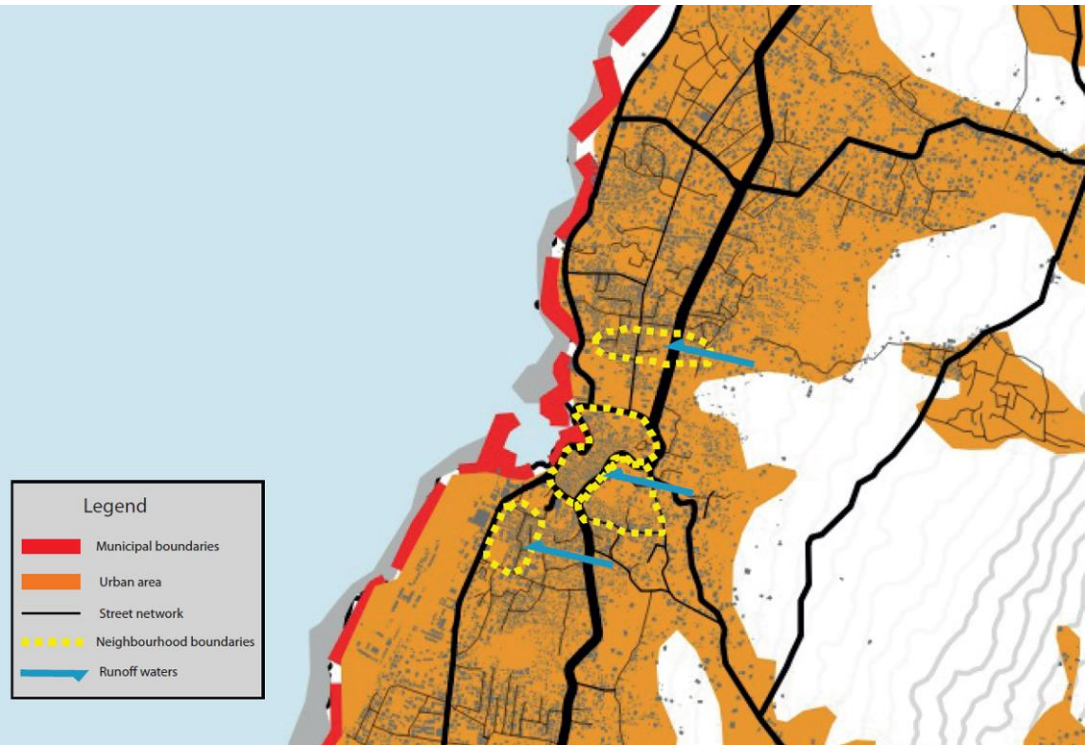
PPPP.<u>*Figure 40*</u>*: Map of Moroni – Extracted from www.googlemaps.com*



[41] Hilary Hove, Daniella Echeverría, Jo-Ellen Parry: Review of Current and Planned Adaptation Action: Southern Africa, p. 63

Figure 41: Climatic threats in Moroni, Comoros, and location of neighbourhoods



Key issues to be addressed

- *Unplanned urban development:* the city has mostly developed in a 'self-urbanising' way, where the absence of government planning, regulation and investment in basic infrastructure has resulted in communities organising themselves, and once they have the means (often money sent from families working abroad), construct basic infrastructure such as roads themselves. Unfortunately, the negative side of this dynamic is that often important investments are made (e.g. opening of cement roads) with the wrong design, hence increasing the vulnerability of the residents. Many new developments are precarious and in high risk areas. As a result, more than half of the city's population resides in informal settlements and often in areas most vulnerable to natural hazards (see figures 42, 43 & 44).

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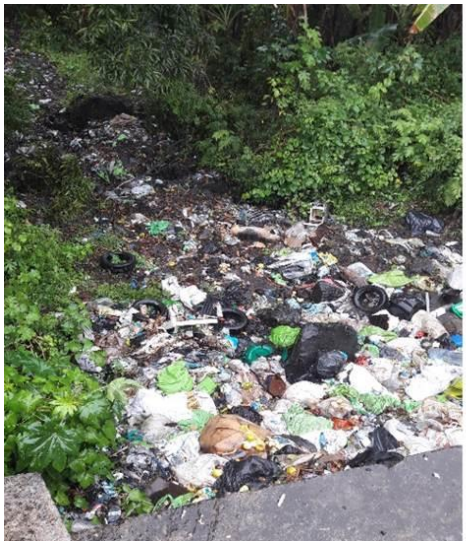
RRRR. *Figures 42, 43 and 44: Conditions of informal settlements in Moroni*

- *Poor drainage:* the drainage system in most of Moroni is almost non-existent, exacerbating the risk exposure of vulnerable and marginalised groups, especially in case of cyclones and heavy rains. Even a moderate rain event causes flooding (see figures 45 and 46).

SSSS.*Figures 45 and 46: Floods caused by a moderate rain event in Moroni*


- *Limited access to drinking water:* access to water is a major issue in many informal or unplanned neighbourhoods, where the current practice is to collect water in containers from other areas of the city. The adaptive capacity to climate change of a large part of the city's population is seriously challenged by this aspect.
- *Outbreak of water-borne diseases:* poor drainage conditions combined with lack of sanitation, proper waste management (see figures 47, 48 and 49) and adequate access to water result in disease outbreaks (diarrhoea). High malaria incidence is also noted due to formation of breeding sites. Water borne diseases are particularly badly affecting children and women.

TTTT. *Figures 47, 48 and 49: Waste is often thrown in natural drainage channels in Moroni*



- *Limited disaster preparedness capacity:* knowledge about risk levels and climate change adaptation needs is low at the household, community and council levels. In general, there is limited information and communication about natural hazards. Although the city is relatively well equipped for monitoring the volcanic activity of the Karthala, there is limited capacity to manage risks related to floods and cyclones, with no adequate early warning system in place. There is also a lack of evacuation routes due to poor road conditions and no protection of critical infrastructure, especially during floods.

d) Institutional context

In the context of this project, the following institutional set up is relevant, at the different levels.

- ***At the sub-regional level***

  - *The Southern African Development Community (SADC) Disaster Risk reduction (DRR) Unit*

SADC is a Regional Economic Community comprising sixteen Member States: Angola, Botswana, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Union of Comoros, Zambia and Zimbabwe. Established in 1992, SADC is committed to regional integration and poverty eradication within southern Africa through economic development and ensuring peace and security.[42]

When unexpectedly heavy floods displaced more than a million people in southern Africa in 2007, SADC began to meet annually to prepare for future occurrences. Concrete steps were taken to ensure that DRR is effectively mainstreamed into national policies. Consequently, SADC established a Disaster Risk Reduction Unit responsible for coordinating regional preparedness and response programmes for transboundary hazards and disasters.[43] The Unit was established in July 2008, within the SADC Directorate of the Organ on Politics, Defence and Security Affairs. The decision was endorsed during the SADC Summit Heads of State and Governments in August 2008 and acknowledged for implementation and resource allocation in January 2009. The SADC DRR Unit, with the support of the existing SADC DRR Technical Committee, has the responsibility to coordinate and provide regional leadership on matters pertaining to disaster risk reduction, mitigation, preparedness and related management activities.

The SADC DRR Unit is a member of the DiMSUR Executive Board (see next section). During the DiMSUR's fourth Executive Board meeting at the side-line of the Africa Regional Platform for Disaster Risk Reduction held in Mauritius on 23 November 2016, the SADC DRR Unit Leader expressed that DiMSUR's efforts were highly appreciated. The partnership between DiMSUR and SADC was further reinforced at the recent conference which was organised in Pretoria, South Africa, from 26 to 28 March 2018 with all SADC member States entitled: "Accelerated collaboration and partnerships for the implementation of DRR for sustainable development in the SADC region", during which the work of DiMSUR got the interest of many participants. It was concurred that SADC's coordination and leadership role and the mandate of DiMSUR were complementing each other and that further cooperation was urgently needed. During the meeting, representatives from Botswana, South Africa, Swaziland and Zambia, among others, expressed their strong interest to join DiMSUR, which highlights the relevance of this institution at the regional level, especially considering the level of vulnerability to natural hazards of southern Africa and the lack of capacity and knowledge on how to implement concrete climate change adaptation measures to increase the resiliency of cities. The current proposal reflects this and includes the SADC DRR Unit as one of the Executing Entities of the project, with responsibilities for supporting Component III of the project related to regional activities (see Part II, section A).

Importantly, on 29 March 2017 the UN-Habitat Executive Director wrote a letter to the Executive Secretary of SADC to formalise and strengthen the partnership with DiMSUR (see **Annex 1a**).

[42] https://www.sadc.int/about-sadc, accessed on 6 January 2017

[43] http://www.sadc.int/themes/disaster-risk-management, accessed on 6 January 2017

For such a purpose a technical mission was conducted by UN-Habitat at SADC Head Quarters in Gaborone, Botswana, from 29 to 31 May 2017 to discuss and define the way forward, including the SADC DRR Unit's role in implementing this project proposal. A mission report can be found in **Annex 1b**. One of the main outcomes is the preparation of a tripartite Memorandum of Understanding (MoU) between SADC, DiMSUR and UN-Habitat to formalise the partnership. The MoU is currently under formulation and is planned to be signed in July 2018 during the next DiMSUR Executive Board meeting.

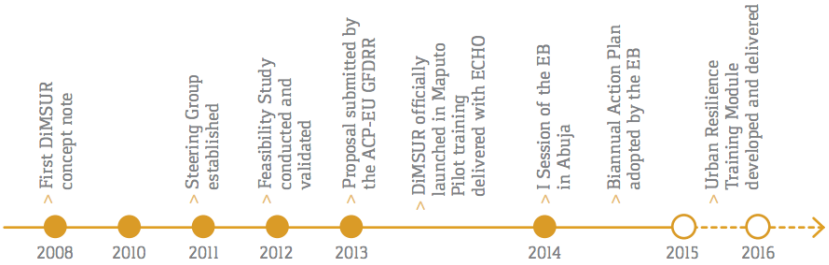
SADC has also recently produced a Gender Protocol which introduces new directives on Gender and Climate Change. The Protocol provides the Governments with evidence-based research on the gendered impact of climate change so to allow them developing gender responsive programmes for disaster reduction and to utilise women's skills and knowledge in mitigating and adapting strategies.

- *The Technical Centre for Disaster Risk Management, Sustainability and Urban Resilience (DiMSUR)*

At the request of the four countries targeted by this project, i.e. Madagascar, Malawi, Mozambique and the Union of Comoros, UN-Habitat has facilitated since 2010 the establishment of the Technical Centre for Disaster Risk Management, Sustainability and Urban Resilience (DiMSUR), which was launched in June 2013. It was endorsed at ministerial level by the four member countries as an international non-profitable, autonomous and regional organisation through a signed Memorandum of Understanding in December 2014 (see **Annex 2a**). The centre aims at fostering development and dissemination of knowledge and solutions as well as developing capacities for disaster risk management, climate change adaptation and urban resilience.

The effort to build a centre of excellence such as DiMSUR originated from the awareness of the governments of Malawi, Madagascar, Mozambique and the Union of Comoros, which is now being confirmed by several other members States of SADC during the above-mentioned March 2018 meeting, of the need to increase coordination and collaboration between neighbouring countries to exchange information, knowledge and mutual capacity reinforcement. The same is also mentioned in the 6th Session of the Africa Regional Platform on DRR held on 22-24 November 2016 in Mauritius, namely under Section 4 on Targets: "Substantially increase the number of regional networks or partnerships for knowledge management and capacity development, including specialized regional centers and networks" and under Section 6 on Means of Implementation: "Support, and develop, as appropriate, regional centers engaged in DRR".

Figure 51: DiMSUR's key milestones



DiMSUR is composed of four organs (see Charter in **Annex 2a**):

- the Conference of Ministers of the member states, responsible for endorsing and validating the mission, vision, policies and strategies of the centre and other extraordinary items when requested;
- the Executive Board, composed by the National Directors responsible for disaster risk reduction (DRR) and/or climate change adaptation (CCA) of each Member State and other relevant stakeholders (UN system, academia, civil society) and responsible for making the key decisions and validating the guiding documents and products of the centre;
- the Consultative Group, consisting of recognised stakeholders of the DRR/CCA and urban resilience fields at various levels that have the role of advising and guiding DiMSUR when consulted;
- the Secretariat, which has the role of conducting all operational functions that are conducive to the achievement of the objectives of DiMSUR as an autonomous body.

UN-Habitat has operated since 2010 as the Centre's Secretariat ad interim. Following its establishment in 2013, UN-Habitat has been responsible for implementing all activities planned in the Biannual Action Plan with full acknowledgement and consent of the DiMSUR Executive Board. Among these activities, it is worth mentioning the organisation of four meetings of the DiMSUR Executive Board since 2014 (NB: the 5th DiMSUR Executive Board meeting is currently under preparation and will be held in Maputo, Mozambique, in mid-July 2018), the participation of the centre's representatives in numerous conferences and events worldwide (e.g. African Platforms for Disaster Risk Reduction, Africities Summit 2015, the Third United Nations Conference on Housing and Sustainable Urban Development – Habitat III, the 2014 World Urban Forum, among others), the development of the CityRAP Tool methodology (see below) as well as the organisation of trainings and workshops on urban resilience involving more than 1,000 participants in various African countries.

UN-Habitat has also supported the Government of Mozambique in drafting and validating with all four members the Host Agreement for establishing the centre in Maputo. This has been a long negotiated process that successfully resulted in the clearance of different Ministries and concerned national institutions in Mozambique. The Host Country Agreement was approved by the Mozambican Cabinet on 31 January 2017 during the Second Ordinary Session of the Council of Ministers chaired by the H.E. the President Filipe Nyusi. The Government of Mozambique, through its Hon. Minister of State Administration and Public Function (MAEFP), which is the high-level government official responsible for disaster risk management, has repeatedly requested UN-Habitat, since this Cabinet approval, to further support the operationalization of the Centre as the Government and the other concerned countries are eager to see it up and running, considering the urgent need for its services.

As mentioned above, UN-Habitat and DiMSUR have developed in the past few years the City Resilience Action Planning (CityRAP) Tool. The tool was tested in several countries and a second, revised version was developed in conjunction with London King's College under the Urban Africa Risk Knowledge Programme funded by DFID, taking into account the lessons learnt. CityRAP Tool activities have been conducted in 25 cities in nine different countries (Madagascar, Mozambique, Malawi, Union of Comoros, Ethiopia, Cape Verde, Sao Tome and Principe, Guinea Bissau and Burkina Faso) and directly involved more than 1,000 local participants - from city authorities and technicians to local community leaders and civil society representatives.

The main objective of the tool is to enable local governments of small to intermediate sized cities (or urban districts of bigger cities) to understand risks and plan practical actions to progressively

build urban resilience. The CityRAP Tool targets local governments with no to limited experience in risk reduction and resilience planning. Its implementation helps prioritising key actions to build the city's resiliency. The main output of the tool is a City Resilience Framework for Action (RFA), based on local government self-assessments, participatory risk mapping exercises, and cross-sectorial action planning by the local government engaging relevant stakeholders, most importantly, communities themselves. The CityRAP Tool involves a bottom-up consultative process and has been designed as an enabling rather than prescriptive tool. A more detailed description of the tool methodology can be found in **Annex 3**.

In addition, it is worth noticing that under the Nairobi Work Programme on impacts, vulnerability and adaptation to climate change, UN-Habitat has developed a number of good practices in Africa, including: (i) a tool to mainstream gender consideration into city-level climate change plans and strategies, which was applied in Kampala, Uganda; (ii) simple and low-cost pilot interventions as effective local solutions for creating climate-resilient settlements, such as school buildings built with locally available materials in Mozambique which can offer shelter to communities in case of floods or cyclones; (iii) rooting sustainable development and desert prevention in Bobo Dioulasso, Burkina Faso, through participatory sanitation improvement and afforestation; (iv) sustainable resettlement and reconstruction in flood-prone peri-urban areas in Saint Louis, Senegal; and (v) youth initiative to sustain mangroves and livelihoods in Mombasa (Kenya).

In southern Africa, and in Africa in general, DiMSUR is unique as it is the only centre of excellence in the continent currently focusing on **urban resilience**, which is still a weakly explored and addressed topic in the region. DiMSUR, with UN-Habitat support, has been able to demonstrate its added-value, cost-effectiveness and relevance by addressing issues for which the countries targeted by this project are currently ill-equipped to face, i.e. disaster risk and sustainable management of their fast-growing cities and towns. By using the CityRAP Tool, the flagship product of DiMSUR, 25 African cities were able to develop *by themselves* (i.e. in the most cost-effective and sustainable manner possible) a Resilience Framework for Action (RFA). Thanks to their own-developed RFAs, UN-Habitat gathered evidence/documented that (just to cite few success stories):

- In Chokwe, Mozambique, the municipality was able to mobilise vulnerable communities and undertake effective risk reduction measures without any external financial or technical support.
- In Morondava, Madagascar, the municipality was able to leverage 1.5 million Euros from AFD (*Agence Française de Développement*) to implement the identified priority actions in the RFA.
- In Guinea-Bissau, the CityRAP Tool implementation in Bafatá and Bolama city districts was so successful that the concerned central government authorities, through the Vice-Minister for Planning, which is part of the Ministry of Economy, Planning and Regional Integration, requested for this methodology to be replicated at the national scale especially for elaborating local economic development (LED) plans. To this end, UNDP, which is leading a LED national programme, has officially established a partnership in early 2018 with UN-Habitat to integrate key elements of the CityRAP Tool into the local development planning tool that it has drafted. The partnership is under implementation and is showing positive preliminary results.
- In Cabo Verde, the municipality of Praia, the capital city, has taken advantage of the CityRAP Tool to systematically integrate aspects related to risk reduction and resilience

while developing detailed urban plans, and is intentioned to improve its by-laws accordingly.

- In the Union of Comoros, after the CityRAP Training of Trainers delivered in January 2016, the Directorate-General of Civil Security has decided to disseminate the tool nationally in all the island of the country using its own funding.

It seems important to underline that, before deciding to set up the centre, the countries requested UN-Habitat to carry out a feasibility study (see the summary of the study in **Annex 2b**) between 2010 and 2011. Among other aspects, the study recommends that: *"the centre should ensure to remain at the cutting edge of DRR concepts and practice, that it is flexible in the management of its programme and that it is able to be innovative and relevant. Hence the centre should, as soon as possible, be identifying technical specialities that give it its individuality."* This is exactly what was done by focusing on urban resilience and developing/testing the CityRAP Tool. Furthermore, the topic of urban resilience was identified thanks to a baseline study that can be found in **Annex 2c**. A first independent evaluation of the tool effectiveness was prepared in 2017 and can be shared upon request. A second evaluation is planned to be ready by August 2018.
As this project falls under the umbrella of DiMSUR and the SADC DRR Unit for regional activities, the following key partners of the centre are mentioned in this proposal at the sub-regional and national levels. It will be noted that, while the institutions responsible for climate change adaptation are mentioned for each country, they are more linked to the broader area of disaster risk reduction, in line with the key mandate of these two executing entities at the regional level.

- *Other relevant institutions in southern Africa*

Regarding the UN system and the humanitarian partners such as international NGOs, a Regional Inter-Agency Coordination and Support Office (RIACSO) was established in 2002 in Johannesburg covering southern Africa, and is chaired by UNOCHA. The RIACSO provides support to strategic planning, assessment and monitoring of crisis situations and coordination for emergency response. It has a functional partnership with the SADC, in particular by playing an important role in the strengthening of networks such as the Famine Early Warning System Network (FEWSNET) and the Southern Africa Regional Climate Outlook Forum (SARCOF). Hence the standard *modus operandi* of the RIACSO is mainly on supporting preparedness and early warning across the region through annual plans, which match the yearly meteorological cycles. Oxfam, a recognised Non-Governmental Organisation working in southern Africa and part of the RIACSO, is a member of the DiMSUR Executive Board and will support executing this project at the local level.

The southern African region is vibrant with initiatives from the Academic sector, which offers a choice of learning options, including professional training in the area of disaster management and increasingly on DRR. Among them, the Disaster Mitigation for Sustainable Communities and Livelihoods Programme implemented by the University of Stellenbosch, South Africa, apart from working with poor communities in projects aimed at strengthening their resilience in the face of disaster risk, also acts as a facilitator for the inter-university Peri Peri U project which supports ten universities throughout Africa to promote a DRR agenda. The latter project encourages interchange and knowledge-sharing between these academic bodies with a view to developing overall capacities in DRR on the continent. Two of these universities are in Madagascar and Mozambique. In Madagascar, the disaster management course (supported by UNDP) is taking momentum and is increasingly recognised. The Antananarivo University, Madagascar, which is part of the Peri Peri U, is a member of the DiMSUR Executive Board.

The North-West University at Potchefstroom in South Africa houses the African Centre for Disaster Studies, which focuses on the development of knowledge tools and offers postgraduate education courses and the facility for capacity development. The Centre is offering a variety of modules on disaster management and DRR and increasingly host international students. It is also a member of the DiMSUR Executive Board.

- *The World Bank / Global facility for Disaster Reduction and Recovery (GFDRR)*

This important stakeholder has already supported the establishment of DiMSUR from 2013 to 2016 through the provision of an 810,000 USD grant to UN-Habitat under the ACP-EU Natural Disaster Risk Reduction Programme. Currently, at the request of SADC DRR Unit, after witnessing the strong interest manifested by SADC Member States during the above-mentioned meeting in March 2018 and appreciating the innovative aspects proposed by DiMSUR and the effective impact of the CityRAP Tool, the World Bank / GFDRR is planning to provide a second grant (between 500,000 to 1,000,000 USD – this is currently being negotiated) to UN-Habitat/DiMSUR for implementing the tool in other southern African countries and mainstreaming DRR and urban resilience in national developing planning in the SADC region.

- ***At the national level***

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- *Madagascar*

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WWWW. The National Climate Change Coordination Bureau (BNC-CC), which is attached to the Ministry of Environment, Ecology and Forestry, coordinates all actions related to the ratification of the UNFCCC, i.e. to promote a resilient economy, adapted to climate change, and to promote low-emission sustainable development of greenhouse gases. The functions of the office are to implement and coordinate all actions to adapt and strengthen climate resilience to the most vulnerable communities and to the climate resilience of the economic development sectors, to implement and coordinate all actions to mitigate climate change, promote sustainable development, strengthen the integration of climate change at all levels and promote carbon markets for sustainable development for the benefit of the Malagasy people.

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YYYY. There are two main institutions dealing with disaster management in Madagascar:

- The Emergency Prevention and Management Unit (*Cellule de Prévention et Gestion des Urgences - CPGU*), which is a technical unit within the Prime Minister's office managing DRR and prevention projects with the support of the United Nations International Strategy for Disaster Reduction (UNISDR) and the World Bank. Its mandate concerns the following functions: (i) to elaborate and update the national strategy for DRR; (ii) to assess and control the implementation of national policy of disaster risk management and reduction; (iii) to support the sector for the implementation of prevention activities; (iv) to assist the Prime Minister in decision making regarding DRR. The flagship intervention of the CPGU is the work developed on building norms and codes in areas prone to cyclones. The Unit cooperates with a range of national and international actors.
- The National Disaster and Risk Management Office (*Bureau National pour la Gestion des Risques et des Catastrophes - BNGRC*) at the Ministry of Interior which was established in 2006 in substitution of the National Security Council (*Conseil Nationl de Sécurité - CNS*). BNGRC supports the Council for National Risk and Disaster Management (CNGRC) and coordinates the organisation and management of operations in case of emergency, as well as

disaster-related activities in general across the country. It has a disaster risk management mandate, with clear responsibilities regarding civil protection, preparedness (including stock-piling and pre-positioning) and response. It has capillary presence on the ground in coordination with the Red Cross and a network of stakeholders at local level. BNGRC is a member of the DiMSUR Executive Board in representation of the Government of Madagascar.

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AAAAA. Another key project partner will be the municipality of Morondava for supporting the execution of the project activities at the municipal level.

- *Malawi*

BBBBB.

CCCCC. The Cabinet Committee on Climate Change is the highest level and enables all arms of government to coordinate their actions in climate change adaptation activities. The Parliamentary Committee on Climate Change serves to assist in lobbying for passing of environment related policies and legislations in the national assembly. The National Technical Committee on Climate Change is the technical multisectoral body advising on climate change in Malawi. Climate change is a cross-cutting issue and is mainstreamed in all Ministries of the Government of Malawi.

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EEEEE. The key coordinating institutions for climate change issues at national and /or district levels include:

- The Ministry of Natural Resources, Energy and Mining is the National Climate Change Management Policy holder and is responsible for the formulation of environmental and climate change policies and coordination of their implementation through the other ministries. This includes the national adaptation strategies (of the NAPA). The Ministry also provides weather and climate related information and services. Its key role in climate change adaptation is to provide scenarios of climate change and provide early warnings and communication of forecasts.

- The Department of Disaster Management Affairs (DoDMA) is responsible for disaster risk management in the country. Its role in climate change adaptation is in preparedness and response for expected changes in disaster profile.

FFFFF. The Disaster Preparedness and Relief Act establishes the National Disaster Preparedness and Relief Committee (NDPRC) responsible for providing policy directions on the implementation of DRM programs. The NDPRC comprises of Principal Secretaries of all line ministries and departments. It is chaired by the Chief Secretary to the Government based in the Office of the President and Cabinet.

GGGGG. The Act also provides for the appointment of a head of DoDMA, which is responsible for coordinating and directing all DRR and disaster risk management programs in the country. The DoDMA, which is answerable at the level of the NDPRC, is part of the Commission for Poverty and Disaster Management Affairs at the office of the Vice-President, and is represented down to district level. DoDMA is a member of the DiMSUR Executive Board in representation of the Government of Malawi.

- The Ministry of Agriculture, Irrigation and Water Development (MoAIWD) has key roles in the area of climate change adaptation including educating farmers about climate change, promoting climate smart agriculture, irrigation and providing hydrometric modelling to aid floods early warning.

HHHHH.

IIIII. Another key project partner will be the municipality of Zomba for supporting the execution of the project activities at the municipal level.

- *Mozambique*

In Mozambique, the institution responsible for Climate Change Adaptation is the Climate Change Unit, which is part of the Ministry of Land, Environment and Rural Development (*Ministério da Terra, Ambiente e Desenvolvimento Rural - MITADER*). The MITADER is tasked to organise and manage the execution of policies under the areas of Land and Geomatics, Environment, Forests, Fauna, Conservation Areas and Rural Development. The Climate Change Unit was created following the approval of the National Strategy for Climate Change Adaptation and Mitigation and has the following main roles: (1) Coordinate and facilitate inter-institutional connections related to Climate Change; (2) Prepare programmes and annual work plans related to climate change; (3) monitor the implementation of the National Strategy for Climate Change Adaptation and Mitigation and (4) provide technical advice on climate change projects and programmes financed through funds from environmental multilateral agreements. The Climate Change Unit is hosted within the Secretariat of the National Council for Sustainable Development, under MITADER.

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KKKKK. The National Council for Disaster Management Coordination (*Conselho Coordenador de Gestão das Calamidades – CCGC*), led by the Prime Minister and including several ministries, is the highest political body dealing with disaster-related issues in Mozambique. Its mandate is to ensure multi-sectoral coordination for disaster prevention, assistance to the victims and rehabilitation of damaged infrastructures.

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MMMMM. Importantly, the CCGC as political decision-making organ receives advices from the Technical Council for Disaster Management (*Conselho Técnico de Gestão de Calamidades - CTGC*), which is constituted by technical staff from the concerned departments of the different Ministries represented in the CCGC, as well as partners from the UN system. In general, the CTGC meets twice a month both at the central and provincial levels. There are attempts to embrace civil society on this committee as well as the academic sector.

NNNNN.

OOOOO. The National Institute for Disaster Management (*Instituto de Gestão de Calamidades – INGC*), under the Ministry of State Administration and Public Function (*Minstério da Administração Estatal e da Função Pública – MAEFP*), coordinates the CTGC and reports to the CCGC. The main functions of INGC are to: (i) coordinate disaster prevention and mitigation activities; (ii) lead the government's response to emergencies; and (iii) deal with arid and semi-arid areas, reconstruction and resettlement. It works very much as a knowledge and reference centre, providing free access to its products in the web. The structures of INGC go down to the three regions (Southern, Central and Northern Mozambique) and eleven Provinces both politically and technically. The southern regional centre deals mainly with drought, the central regional centre with floods and the northern regional centre with cyclones. There are inter-sectorial technical committees for disaster management organised at the provincial level. Focal points are nominated at district levels which deal with the local committees. INGC is a member of the DiMSUR Executive Board in representation of the Government of Mozambique.

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QQQQQ. Another key project partner will be the municipality of Chokwe for supporting the execution of the project activities at the municipal level.

- *Union of Comoros*

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SSSSS. The main institution responsible for climate change adaptation in Comoros is the Directorate General of the Environment and Forests (*Direction Générale de l'Environnement et des Forêts, DGEF*).

TTTTT.

UUUUU. In terms of disaster management, the Directorate General for Civil Security (*Direction Générale de la Sécurité Civile - DGSC*) is recognised as the main governmental institution. DGSC is a member of the DiMSUR Executive Board in representation of the Government of Comoros.

VVVVV.

WWWWW. Different sectors are responsible for disaster preparedness and response depending on the type of hazard. Sectors cooperate in response once alerted by the crisis cell, and propose an action to the government. The PIROI (Indian Ocean Regional Intervention Platform) network, part of the French Red Cross that has carried out a regional programme of disaster risk management in the south-west Indian Ocean since the year 2000, strongly focuses on civil protection, disaster preparedness and response.

XXXXX.

YYYYY. Another key project partner will be the municipality of Moroni for supporting the execution of the project activities at the municipal level.

Project Objectives:

In alignment with the Adaptation Fund Results Framework, in particular Outcome 2 (Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses), Outcome 3 (Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level) and Outcome 4 (Increased adaptive capacity within relevant development and natural resource sectors), the project has two objectives, namely:

1. To develop capacities and establish conditions to adapt to the adverse effects of climate change in vulnerable cities of Madagascar, Malawi, Mozambique and the Union of Comoros;
2. To promote inter-country experience sharing and cross-fertilisation regarding the adaptation to transboundary climate-related natural hazards and disseminate lessons learned for progressively building urban climate resilience in south-eastern Africa.

Objective 1 responds to the problematic raised in the project background regarding the low capacity of local governments in sub-Saharan Africa in identifying and planning actions for effectively adapting to the negative effects triggered by climate change. This is especially true in fast growing small and intermediate cities. In these urban centres, under-serviced informal settlements are sprawling in an uncontrolled manner and municipal authorities are ill-prepared to face the unwanted consequences of this dynamic process. These range from the increased risk to climate-related natural hazards such as floods and cyclones, simply due to the vulnerable location of the new settlements, to issues compounding the impact of climate change, such as the lack of solid waste management (which is hampering the efficiency of the drainage system, for example, and increasing the likelihood of water-borne disease outbreaks), or poor techniques applied in housing construction, for example.

Through Objective 1 national authorities are also targeted. The idea is to take advantage of the practical implementation of the project at the city level and of the CityRAP Tool experience to derive the needed guidelines in alignment with existing policies and legislation, and thus create the conditions for replication in other cities and towns at the country level. For this purpose, the project will also allow delivering training activities to both central and local authorities through appropriate institutions and networks and by building appropriate partnerships with on-going initiatives, and start laying the foundations for building urban climate resilience in the four participating countries.

Objective 2 represents the regional dimension of the project and will be anchored to the DRR SADC Unit, which will work in partnership with DiMSUR. As per the MoU for establishing the Centre signed among the four countries concerned by this project (see **Annex 2a**), DiMSUR is supposed to promote inter-country experience sharing and cross-fertilisation, and to work as a knowledge platform regarding urban resilience related issues that can be disseminated in the sub-region. One of the key *"raison d'être"* for establishing this institution is the need for these countries belonging to the same geographical region to share best practices on how to address common transboundary climate-related natural hazards such as floods, drought, cyclones and sea level rise. This certainly represents a strong added-value of the project, whose impacts could even reach more countries of the southern Africa sub-region.

Therefore, there are **three Project Components** (which will be described in more detail in Part II), the first two contributing to Objective 1 and the third one contributing to Objective 2:

1. *Preparation, implementation and sustainable management of priority sub-projects at the city level,* aligned with Adaptation Fund (AF) Outcome 2: "Strengthened institutional capacity to reduce risks associated with climate-induced socio-economic and environmental losses", AF Outcome 3: "Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level", AF Outcome 4: "Increased adaptive capacity within relevant development and natural resource sectors" and AF outcome 5: "Increased ecosystem resilience in response to climate change and variability-induced stress";
2. *Tools and guidelines development and training delivery at the national level*, aligned with AF Outcome 2: "Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses" and AF Outcome 7: "Improved policies and regulations that promote and enforce resilience measures";
3. *Inter-country experience sharing, cross-fertilisation and dissemination of lessons learned at the regional level*, aligned with the need of a regional project to promote new and innovative solutions to climate change adaptation for urban areas in multiple countries affected by common/transboundary climatic threats, with AF Outcome 2: "Strengthened institutional capacity to reduce risks associated with climate-induced socio-economic and environmental losses" and AF Outcome 7: "Improved policies and regulations that promote and enforce resilience measures".

Project Components and Financing:

Project Components and Financing *(NB: **all 4 countries** are concerned in each component. Further information on planned outputs and their indicative budgets can be found in more detail in Part II, section A)*

Project Components	Expected Outcomes	Expected Outputs	Amount (US$)
1. Preparation, implementation and sustainable management of priority sub-projects at the city level	1. Municipal staff, communities and local stakeholders have successfully planned and implemented priority sub-projects for increasing the climate resilience of their city and have acquired the required capacity to manage and maintain the realised investments	1.1. Sub-projects implementation plans fully developed with communities and municipalities, including detailed engineering studies	396,000
		1.2. Priority sub-projects are implemented in the four target cities mainly through community involvement as labour-intensive manpower	7,749,999
		1.3. Municipal staff and community members mobilised, trained and equipped for ensuring the sustainable management and/or maintenance of the implemented priority sub-projects	2,345,600
		Sub-Total Project Component 1:	*10,491,599*
2. Tools and guidelines development and training delivery at the national level	2. National governments have created enabling conditions for scaling up and replicating the same climate resilience approach in other urban settlements	2.1. National tools, guidelines, policies and/or legislation for promoting urban climate adaptation developed	270,000
		2.2. National and local officers trained in urban climate adaptation techniques and approaches	490,000
		Sub-Total Project Component 2:	*760,000*
3. Inter-country experience sharing, cross-fertilisation and dissemination of lessons learned at the regional level	3. Local and national governments of the 4 countries have learned from each other good urban climate adaptation practices and are better prepared to face common transboundary climate-related natural hazards	3.1. Lessons learned and best practices captured and disseminated through the SADC DRR Unit in partnership with DiMSUR as regional knowledge management platform	170,000
		3.2. Cross-fertilisation activities among the participating countries are discussed and prepared	120,000
		3.3. Regional workshops organized for experience sharing among the different countries, and participation to global events	240,000
		Sub-Total Project Component 3:	*530,000*

		Sub-Total of the 3 Project Components:	*11,781,599*
5. Project Execution Cost (9.5%)			1,119,252
6. Total Project Cost			12,900,851
7. Project Cycle Management Fee charged by the Implementing Entity (8.5%)			1,096,572
Amount of Financing Requested			**13,997,423**

Project Duration: *4 years (48 months)*

Projected Calendar:

Milestones	Expected Dates
Start of Project Implementation	October 2018
Mid-term Evaluation	October 2020
Project Closing	October 2022
Terminal Evaluation	April 2023

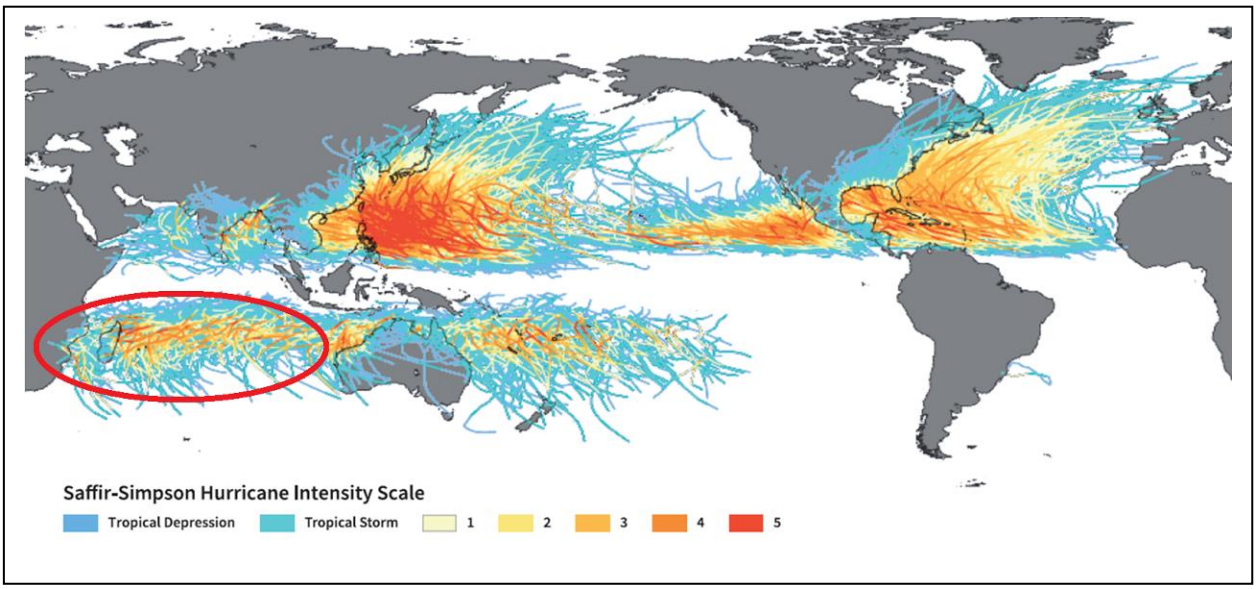
PART II: PROJECT JUSTIFICATION

ZZZZZ. Project components

A regional approach for this project is justified for the following reasons:

- Common natural threats: the four selected countries for this project, i.e. Madagascar, Malawi, Mozambique and the Union of Comoros, are annually affected by cyclones originating in the Indian Ocean and moving westwards during the period stretching from November to March, hence provoking strong winds, high precipitations and floods with devastating effects in urban areas (see area circled in red in figure 52). In addition three out of four countries (i.e. with exception of Malawi) suffer from coastal erosion which is compounded by the effects of sea-level rising. It is crucial that the countries start learning from each other on how to adapt to these common climatic threats. Historically, this has not been the case especially because of the language barriers (i.e. four countries speaking three different languages) and prolonged conflicts affecting southern Africa for several decades until the end of the Apartheid regime in South Africa in the early 1990's. Generally-speaking, inter-country cooperation has been weak, especially regarding DRR. Yet Madagascar, for example, is much more advanced comparing to its neighbours to withstand **cyclones**, being one of the most vulnerable countries in the world to this type of natural hazard. The country has developed adapted building codes which are being systematically enforced in all types of constructions, from public to private, even by low-income groups using wood as main building material. That is why the Government of Mozambique, through INGC, has requested UN-Habitat in 2012-2013 to support the transfer of knowledge from Madagascar to Mozambique in terms of cyclone-resistant construction in order to improve its building codes so that construction could become more resistant to cyclones and strong winds. This was successfully done thanks to the financial support of the World Bank through the Safer schools initiative, which is now being scaled-up in the country (see **Annex 4**).

AAAAAA. *Figure 52: Worldwide historical tropical cyclone tracks – UNISDR Global Assessment Report 2015, p. 67.*



Similarly, Mozambique has a greater experience than its neighbours in terms of **flood** risk management, and has been providing technical assistance from 2010 to 2014 to other SADC countries. However, these recent (and still much under-developed) inter-country cooperation initiatives have been carried out in an ad-hoc manner, based on time-bound projects and/or funding, hence knowledge is then lost once the project ends or the key people are gone, since it knowledge management practices are not systematised. This very well justifies the need for a regional approach. The current proposal scales up these existing initial knowledge and cross-learning processes, notably through Component 3.

- A common institution: the four countries targeted by this project requested to UN-Habitat in 2010 to verify the feasibility of establishing a sub-regional technical centre for Disaster Risk Management, Sustainability and Urban Resilience (DiMSUR)[44], which was launched in 2013. The centre, which was described in greater detail earlier, aims at fostering development and dissemination of knowledge and solutions in the four concerned countries, as well as developing capacities for disaster risk management, climate change adaptation and urban resilience. In the centre's 10-Year Strategic Plan approved in October 2015 by the DiMSUR Executive Board (see **Annex 2d**), the centre has defined among its six (6) areas of work the Strategic Priority n. 4: *"Establishing networks and partnerships towards better knowledge management and dissemination for urban resilience"*. Therefore this centre is, without any doubt, the best possible mechanism already in place to manage and disseminate knowledge and best practices being generated by the project. As mentioned earlier, there is currently a strong request for DiMSUR support by the targeted countries and even additional SADC Member States. Meanwhile, the World Bank / GFDRR has already expressed its interest to provide financial support to satisfy this demand. It is highlighted that in the DiMSUR MoU (see **Annex 2a**) the intention is to enlarge DiMSUR geographical coverage to the whole SADC region (as mentioned, Botswana, Zambia and Zimbabwe have already expressed interest to join). The Asian Disaster Preparedness Centre (ADPC – created in the 1980's for similar reasons as DiMSUR) has already contacted UN-Habitat (in its quality of DIMSUR Secretariat ad interim) several times in the past few years for establishing a joint collaboration and deliver technical advisory services in the SADC region. Furthermore, in terms of sustainability, as explained in the DiMSUR feasibility study (see **Annex 2b**), it is being ensured by:
    - Securing the full endorsement and ownership of the initiative from the concerned countries (NB: minutes of the four DiMSUR Executive Board meetings held since the establishment of the centre in 2013, which are meetings led by the countries' governments themselves, can be shared upon request).
    - Involving SADC, other UN agencies, the civil society, the academic sector and bi/multilateral donors in the initiative (NB: this was systematically done through the different Executive Board meetings, by getting funds from donors and by establishing active collaborations with academic institutions in South Africa with North-West University, in Madagascar with Antananarivo University, in Mozambique with Eduardo Mondlane University, and even more broadly through the Urban ARK initiative mentioned earlier; this will soon be further strengthened through the tripartite MoU to be signed in July 2018 between SADC, DiMSUR and UN-Habitat).
    - Carrying out constant advocacy and resource mobilisation efforts (NB: this was done regularly; importantly, the DiMSUR website is currently been re-designed and much improved).

[44] For more information on DiMSUR, please see the centre's website at: www.dimsur.org

- Establishing the credibility of the centre as a viable income generator in order to sustain itself; this can be achieved if the quality of the services delivered and results achieved by the centre is ensured; the centre needs to make itself an indispensible part of the DRR fabric in the region (NB: the fulfilment of this recommendation is on the right track through the development and consolidation of the CityRAP Tool, which is currently on high demand; a first evaluation of the tool was carried out and a baseline study as well -see **Annex 2c**- showing that urban resilience is the unique selling point of DiMSUR in the African region at the moment).

- Establishing the centre progressively, through a multi-phased process; the costs for maintaining and running the centre will be shared among: 1) the contribution from external donors (which should decrease over time); 2) the contribution from the countries (which should remain fixed over time, and can also be in-kind); and 3) the contribution from income generation activities (which should increase over time); (NB: this recommendation is being followed closely with positive results being obtained so far; the recent demand of support from 4 additional SADC countries and the confirmation of financial support from the World Bank / GFDRR is just a confirmation of that).A new topic and the possibility to learn from each other: adaptation to the effects of climate change in urban areas is a relatively new topic in Africa, and south-eastern Africa is no exception. The cities selected in each country actually suffer from different types of effects of climate change because of their diverse physical conditions: Moroni and Morondava are coastal cities, affected mainly by sea level rise and cyclones/floods, while Chokwe and Zomba are located inland, the first suffering mainly from river floods and the second from flash floods due to deforestation. This means that the selected urban centres will provide a wealth of diverse experiences and solutions for adapting to the negative effects of climate change in urban settings from which all four countries will be able to learn from, thanks to the adopted regional approach. In addition these four cases will represent a good representative sample of diverse situations from which different urban adaptation models and practices can be extracted, in order to compile lessons learned and further disseminate them in the SADC region. This is certainly an added-value to the regional approach being promoted by this initiative. The four countries will be able to learn from each other, and through the DiMSUR platform, such a newly acquired knowledge will be further disseminated to other SADC countries.

The above-mentioned issues provide a strong justification for adopting a regional approach instead of working in each country individually. In addition, the Southern Africa Development Community (SADC), which plays the role of the regional executing entity in this project, is interested in using the lessons learned to influence its current regional policies and strategies regarding disaster risk reduction and climate change adaptation in urban areas, and to promote similar approaches in other countries of the region. As indicated above, UN-Habitat has recently developed a proposal on behalf of DiMSUR at the request of SADC and to be funded by the World Bank / GFDRR to carry out CityRAP Training of Trainers and implementation/dissemination in Botswana, South Africa, Swaziland and Zambia, as well as supporting these countries to mainstream urban DRR and resilience in their policies and strategies at the different levels.

The project consists of **three components**:

Under **Component 1**, the project intends to prepare, implement and manage in a sustainable manner priority sub-projects at the city level, which are meant to serve as entry points to progressively build climate resilience in the four target cities and selected communities.

This process builds on activities already conducted during project preparation, including the

results of the CityRAP Tool implemented in the different cities and additional field work activities, as summarised below:

- *Morondava, Madagascar:* UN-Habitat, as DiMSUR Secretariat ad interim, supported the city of Morondava to develop, finalise and validate its Resilience Action Plan (nowadays referred as the Resilience Framework for Action – RFA) through the implementation of the first version of the CityRAP Tool between January and March 2016. The process gave an opportunity to develop the capacity of the local government to understand and plan actions that progressively build urban resilience and reduce urban risk. After discussing the results of the different activities undertaken by the municipality during the prioritisation workshop, participants reviewed the Resilience Action Plan of Morondava during the validation workshop and identified 4 priority issues to be addressed in the short, medium and long-term: (i) improve the drainage system; (ii) protect the coastline; (iii) plan the city of Morondava; and (iv) improve solid waste management. Coordination mechanisms and a monitoring and evaluation framework have been added to complete the document. Then additional field work and local consultations with key stakeholders, including vulnerable groups, were organised end of June 2017, end of October 2017 and in March 2018 to determine the needs for building urban climate resilience and develop more detailed priority sub-projects which were validated locally.

- *Zomba, Malawi:* The CityRAP methodology was implemented in Zomba through a participatory and comprehensive process between October and November 2015. Based on the compilation of the municipality's assessment results and the community risk maps, a list of priority actions for reducing risks, fostering resilience and enhancing adaptive capacities, was discussed and the following five priority issues agreed and validated: (i) reduce and mitigate floods; (ii) improve the drainage system; (iii) strengthen citizen security; (iv) promote sustainable forest management; and (v) foster strategies to cope with rainstorms. Based on these five priorities, the City of Zomba has elaborated a Resilience Action Plan that details the expected results, planned activities, budget and calendar. Responsible actors for the implementation of each action were identified, and activities were geographically located. Additional field work and local consultations were organised in June and July 2017, end of September 2017 and in March 2018 to determine the needs for building urban climate resilience and develop the priority sub-projects in a participatory manner. In particular, site visits and local consultations, including of vulnerable groups, were carried out in order to assess the feasibility, social and environmental risks, and needs of vulnerable groups. The proposed priority sub-projects were revised accordingly in conjunction with all local stakeholders.

- *Chokwe, Mozambique:* UN-Habitat, on behalf of DiMSUR, selected Chokwe as the first pilot city to implement the CityRAP Tool between August and September 2015, and enable the local government to plan and undertake practical actions to strengthen the resilience of the City. The main output of the process is a City Resilience Action Plan identifying six priority issues: (i) plan neighbourhoods; (ii) improve the drainage system; (iii) improve solid waste management; (iv) improve public lighting; (v) develop the urban economy; and (vi) improve education and health infrastructure. The methodology allowed the city of Chokwe to adapt and quickly start implementing the City Resilience Action Plan with minimal external intervention. Field work was carried out and local consultations held in mid-July and October/November 2017, as well as in February 2018, to determine develop priority sub-projects for climate adaptation and validate them locally.

- *Moroni, Comoros:* the CityRAP Tool was implemented between April and August 2017. During the prioritisation workshop held beginning of July 2017, the following actions were

identified: (i) job creation; (ii) solid waste management; (iii) energy; (iv) improved urban planning; (v) water, drainage and sanitation. When carrying out field work in July/August 2017, November 2017 and March 2018 in selected vulnerable neighbourhoods, considering the need to look into resilience from a climate adaptation angle, the following priority sub-projects were identified more specifically: (i) improved drainage conditions; (ii) solid waste management; (iii) access to drinking water; and (iv) enhanced early warning systems for floods.

Based on the four City Resilience Frameworks for Action (RFAs) and the information collected during the in-depth municipal/community consultations, the following *Expected Outputs* were defined:

1.1. Sub-projects implementation plans developed with communities and municipalities, including detailed engineering studies

For larger-size sub-projects there is a need to develop more detailed designs based on deeper assessment studies, as well as bill of quantities, and to get formal approval from national/local authorities. This will be done through local consultations, by hiring specialised engineers/architect/planners (as required), from which then local tendering processes will be carried out to hire sub-contractors.

1.2. Priority sub-projects are implemented in the four target cities mainly through community involvement as labour-intensive manpower

In total, 23 priority sub-projects have been identified in the 4 target cities (see **Annex 5**), which will contribute to improve the following key aspects of climate change adaptation in urban areas: early warning systems, drainage capacity (intrinsically linked to solid waste management), safe havens, sustainable use of natural resources (especially to mitigate erosion and flood risk, and improving water resources management) and urban mobility (essential for evacuation purposes during disaster emergency times). As there are similar sub-projects in the four target cities, best practices and lessons learned will be used to maximise positive impacts in each city from a national and regional perspective through cross-country/city experience sharing (see Component 3).

As explained above, these priority sub-projects resulted from the roll-out of the CityRAP Tool and from in-depth consultations held at community and municipal levels until very recently. The following criteria were considered for their selection:

- Critical urban resilience building needs responding to current and future climate change impacts;
- Cost-effectiveness of the proposed priority sub-projects;
- Potential environmental and social risks and impact of the proposed priority sub-projects, and identified mitigation strategies;
- Expected economic, social and environmental benefits of the proposed priority sub-projects;
- Sustainability of the proposed priority sub-projects;
- Avoidance of possible duplication of efforts already undertaken at the city level;
- And last but not least, the needs of vulnerable groups and integration of gender aspects.

Implementation of these priority sub-projects, which constitute the major financial investment of the project, will allow creating temporary jobs, especially targeting poor/vulnerable people. These sub-projects will be implemented under the leadership of Oxfam International in cooperation with the target municipalities and as much as possible through community involvement (e.g. labour intensive activities), in a cost-effective manner. Only for major investments specialised local sub-contractors will be hired, always with a clause to use the resident community as unskilled/skilled (if available) labour as much as possible.

1.3. Municipal staff and community members are mobilised, trained and equipped for ensuring the sustainable management and/or maintenance of the implemented priority sub-projects

This output and related activities are of crucial importance especially for ensuring the sustainability and efficient maintenance of the priority sub-projects mentioned above. It will entail activities such as: (i) local training sessions (including vocational/skill training) for both responsible municipal staff and community members; (ii) community awareness and sensitisation (with focus on gender/youth issues) regarding drainage/road maintenance, solid waste management, management and use of public rainwater harvesting systems, tree planting, enforcement of by-laws with climate adaptation focus, etc.; (iii) use of required maintenance equipment, among others; and the promotion of alternative livelihoods to support sustainable use of resources. In this way, local capacity will be developed so to ensure the management/maintenance of the priority sub-projects' outcomes in the longer term.

A more detailed description regarding Component 1 for each city is provided below.

- *Morondava, Madagascar*

As described in Part I, the city of Morondava is divided in two parts: (i) an historical and colonial centre in the west, surrounded by flood-prone areas; and (ii) an urban agglomeration following the major road infrastructure in the east. This major road infrastructure is in between flood plains and constitutes the only evacuation route for the western part of the city (see figure 6 in Part I), which is also adjacent to the sea hence affected by coastal erosion. In the southern side of the city, the Hellot Channel passes through densely populated neighbourhoods and functions as the main drainage system of the city, with smaller drainage channels connected to it. Few bridges are crossing the Hellot Channel, connecting the south-eastern neighbourhoods to the city centre. These bridges are in poor condition despite their crucial importance. Around 65% of the city is located in flood sensitive areas.

As explained in Part I, the city experiences recurrent flood events caused by the concomitance of high tides with greater river discharges during the rainy/cyclonic season. High waters are causing major problems in the neighbourhoods along the Hellot Channel where the water, mostly filled with waste, reaches and enters secondary drainage system coming from the city centre. The situation is aggravated by the lack of waste management which, combined with flooding, leads to health risks especially for children. Cyclones also cause major floods accompanied by strong winds damaging the assets. Figure 8 in Part I summarises the different types of risks affecting the city.

During the screening and assessment of potential sub-projects to be implemented in Morondava, it was concluded that greater structural interventions such as large flood/erosion protection measures (e.g. sea walls, stabilisation of the dune system, etc.) may lead to uncertain results and involve high costs. In addition, considering that early warning mechanisms, building codes and basic preparedness capacities already exist in Morondava concerning strong winds linked to

cyclonic events, the approach adopted for packaging the priority sub-projects and contribute to an enhanced urban climate resilience of the city was to focus on creating local capacities and conditions for "living with floods" and lower the levels of flood disaster risk. Therefore eight (8) sub-projects were selected focusing on mainly on the neighbourhoods most at risk, namely: Andabatoara, Ambalanomby, Andakabe, Ankisirasira Nord, Ankisirasira Sud, Avaradrova, Bemokijy, Morondava Centre, Nosikely, Sans Fil and Tanambao. Table 2 presents some demographic and socio-economic data of these neighbourhoods.

Table 2: Demographic and socio-economic characteristics of the targeted neighbourhoods in Morondava[45]

Neighbourhood (or Fokontany)	Population (2017)	Elderly	% of poor
Andabatoara	5,705	301	75%
Ambalanomby	778	41	68%
Andakabe	4,667	246	61%
Ankisirasira Nord	3,319	175	72%
Ankisirasira Sud	2,697	142	78%
Avaradrova	4,253	224	79%
Bemokijy	897	47	75%
Morondava Centre	4,771	252	60%
Nosikely	3,630	191	50%
Sans Fil	3,112	164	70%
Tanambao	5,186	274	85%

Source: Data from the 2017 Census - INSTAT/DDSS

The selected sub-projects are (see **Annex 5.1**):

- Rehabilitation of 180 ha of mangroves *(Sub-Project Fiche 5.1.1)*;
- Urban greening interventions in high risk areas *(Sub-Project Fiche 5.1.2)*;
- Establishment of a city-wide early warning system for floods *(Sub-Project Fiche 5.1.3)*;
- Construction of a resilient and multi-purpose safe-haven *(Sub-Project Fiche 5.1.4)*;
- Construction of a flood-proof elevated road with improved drainage capacity *(Sub-Project Fiche 5.1.5)*;
- Reconstruction of 3 bridges connecting different neighbourhoods in a resilient manner *(Sub-Project Fiche 5.1.6)*;
- Enhancing the drainage capacity in the city centre *(Sub-Project Fiche 5.1.7)*;
- Improving solid waste management in the city centre *(Sub-Project Fiche 5.1.8)*.

These eight interventions are closely inter-related. In order to preserve ecosystems and protect infrastructure and communities against the adverse impacts of floods, the project will carry out interventions to improve buffer areas and soil stabilisation in critical areas of the city that are prone to flooding. Therefore 180 ha of mangroves will be rehabilitated (Sub-Project Fiche 5.1.1) and green buffer areas developed along a crucial avenue linking the two sides of the city (Sub-Project Fiche 5.1.2), also used as the principal evacuation route in case of floods.

[45] NB: unfortunately, no disaggregated data by sex and by age (e.g. youth) exist at the neighbourhood level; however the city's population of 50.73% or women and 49.27% of men.

In this regard, the project plans to also establish an early-warning system for floods (Sub-Project Fiche 5.1.3) including the identification and marking of escape routes to hospitals and the multi-purpose safe-haven (Sub-Project Fiche 5.1.4). As mentioned above, the existing network of city infrastructure is in bad conditions and does not allow a safe evacuation of the population when floods occur. This is why attention will be given to improving a critical road (Sub-Project Fiche 5.1.5) and key bridges (Sub-Project Fiche 5.1.6) to get out of isolation the south-eastern part of the city which is surrounded by flood plains. In fact, by elevating and paving an important escape road and rehabilitating three bridges, the evacuation of the population of these neighbourhoods, where poor and vulnerable groups are living, will be facilitate in case of an emergency caused by floods or cyclones. For this purpose, a surveillance centre will be equipped in the multi-purpose safe-haven to be built in the city centre, which can also provide shelter to the population.

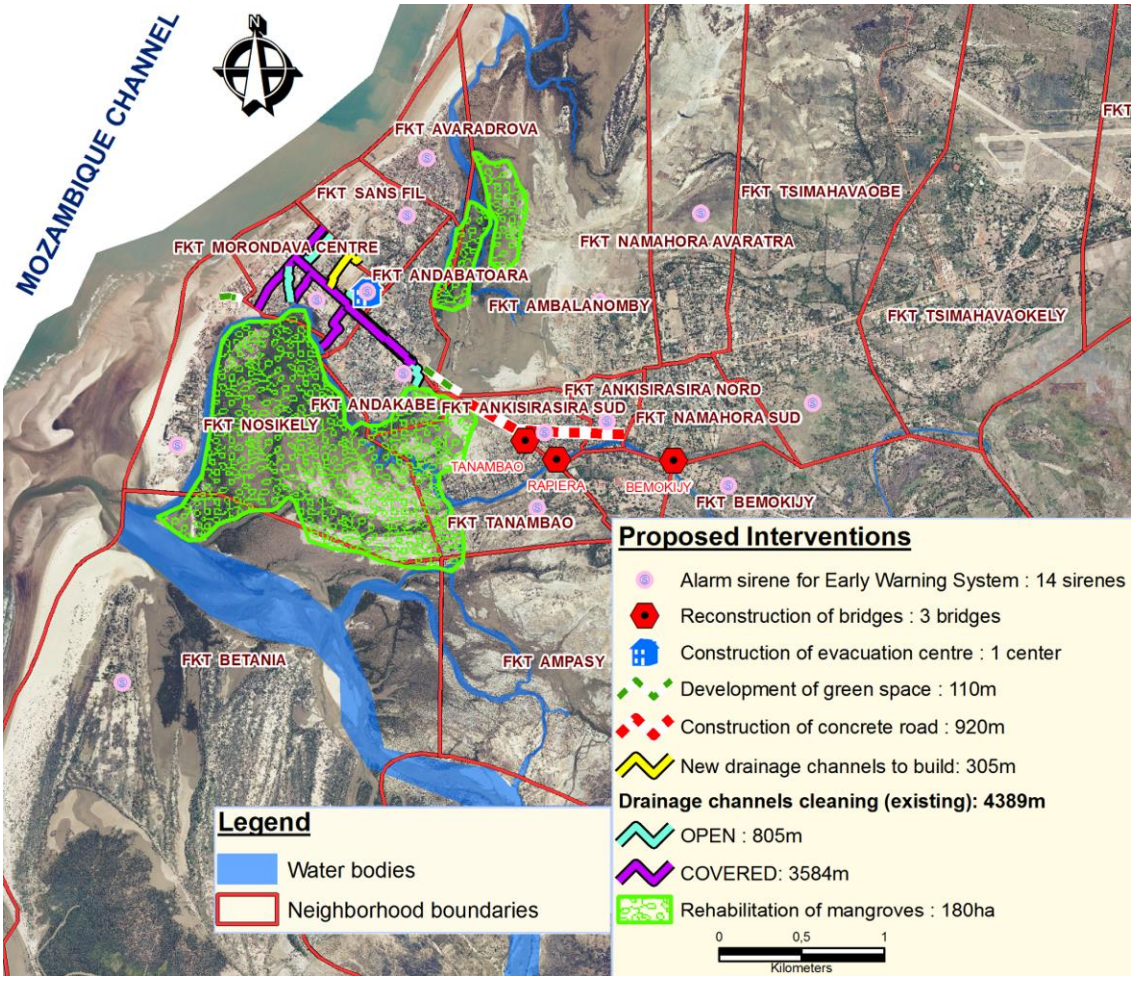
Lastly, Sub-Project 5.1.7 will focus on improving the drainage system in the city centre and adjacent areas by cleaning and rehabilitating the existing network of drainage ditches. It will expand the drainage system at reasonable cost in an area particularly at risk (Sans Fil neighbourhood) with aim to facilitate the evacuation of rain/flood waters. Importantly, these drainage interventions will be complemented through the improvement of the solid waste management in these same areas (see Sub-Project Fiche 5.1.8) to ensure the proper functioning of the rehabilitated/improved drainage system, which is currently totally clogged with waste.

An overview of these interventions is presented in table 3, and located in figure 53.

Table 3: Overview of proposed priority investments/activities for Morondava, Madagascar

Priority sub-projects	Target neighbourhoods / Fokontany	Estimated nr of direct beneficiaries	Estimated cost (USD)	Cost per beneficiary (USD)
5.1.1. Rehabilitation of 180 ha of mangroves	Nosikely, Tanambao, Andakabe and Avaradrova	27,782	560,000	20.16
5.1.2. Urban greening interventions in high risk areas	Nosikely, Andakabe, Andabatoara, Ambalanomby, Ankisirasira Sud and Tanambao	22,663	120,000	5.29
5.1.3. Establishment of a city-wide early warning system for floods	City-wide	63,000	85,000	1.35
5.1.4. Construction of a resilient and multi-purpose safe-haven	Morondava Centre and adjacent neighbourhoods located in the western part of the city	26,138	201,000	7.69
5.1.5. Construction of a flood-proof elevated road with improved drainage capacity	Ankisirasira Sud, Ankisirasira Nord and Tanambao neighbourhoods	18,929	425,000	22.45
5.1.6. Reconstruction of 3 bridges connecting different neighbourhoods in a resilient manner	Tanambao, Ankisirasira Sud and Bemokijy	10,943	250,000	22.85
5.1.7. Enhancing the drainage capacity in the city centre	Morondava Centre, Sans Fil, Andakabe and Andabatoara neighbourhoods	18,255	170,000	9.31
5.1.8. Improving solid waste management	Morondava Centre, Sans Fil, Andakabe and Andabatoara neighbourhoods	18,255	190,000	10.41

Figure 53: Map of Morondava, Madagascar, locating all sub-projects



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- *Zomba, Malawi*

As outlined in Part I of the proposal, the topography of Zomba and the climate-related hazards are inherently linked. From the Zomba Mountain and several hills surrounding and within the city some river streams flow towards the main river Likangala which crosses the city from West to East. Meanwhile, the Mulunguzi River originating from the Zomba Plateau flows through the north-eastern parts of the city. Heavy deforestation in the hills and upstream areas leads to erosion, landslides and flash floods. Poor drainage, which is clogged with waste, and associated uncontrolled water flow aggravate the situation.

Consequently, the low lying city wards are severely affected by floods and river bank erosion, as water flows from the downwards streams accumulate in the Likangala River. In times of floods people and assets are at risk and the lack of an early warning system and of purposely built evacuation centres aggravate the situation.

In order to reduce flood impacts on people, assets and livelihoods and to ensure that vulnerable people are safe with regard to floods, interventions in Zomba will be packaged into seven (7) sub-projects that will benefit eight (8) among the most vulnerable wards. The target wards present high percentages of informal settlement (e.g. 100% in Likangala Ward, 90% in Chinamwali Ward, 98% in Mpira Ward, 70% in Mbedza Ward and 50% in Mtiya Ward, just to cite a few)[46].

[46] Zomba City Council estimations

Demographic information on the selected neighbourhoods can be found in table 4 below.

Table 4: Demographic characteristics of the targeted wards in Zomba

Communities / ward	Population / beneficiaries[47]
Masongola	**9,284** (4,549 female; 3,853 youth; 250 disabled)
Sadzi	**20,271** (9,933 female; 8,412 youth; 520 disabled)
Mtiya	**12,466** (6,108 female; 5,173 youth; 412 disabled)
Chambo	**11,558** (5,663 female; 4,797 youth; 390 disabled)
Chinamwali	**21,739** (10,652 female; 9,022 youth; 545 disabled)
Mbedza	**12,082** (5,920 female; 5,014 youth; 417 disabled)
Mpira	**12,128** (5,920 female; 5,014 youth; 400 disabled)
Likangala	**22,711** (11,128 female; 9,425 youth; data on disabled not available)

The selected sub-projects in Zomba are (see **Annex 5.2**):

- Establishment of a city-wide early warning system for floods *(Sub-Project Fiche 5.2.1);*
- Construction of multi-purpose evacuation centres *(Sub-Project Fiche 5.2.2)*;
- Rehabilitation of existing drainage channels and construction of new drainage channels *(Sub-Project Fiche 5.2.3)*;
- Improving solid waste management *(Sub-Project Fiche 5.2.4)*;
- River-focused interventions to prevent erosion and flooding *(Sub-Project Fiche 5.2.5)*;
- Construction and rehabilitation of bridges and dams on Likangala River *(Sub-Project Fiche 5.2.6)*;
- Sustainable urban forest management *(Sub-Project Fiche 5.2.7)*.

Similarly as for Morondava, these sub-projects form an integrated package of inter-related interventions to reduce the impact of flooding and increase the level of climatic adaptation of Zomba. Importantly, this integrated approach takes into account the wider catchment system of which Zomba is part of.

As part of an overall logical approach, up-hill areas were targeted with afforestation (Sub-Project Fiche 5.2.7) and drainage (Sub-Project Fiche 5.2.3) interventions to address soil erosion, landslides, flash floods and uncontrolled water flow. These interventions are located where people and assets are most at risk, i.e. close to schools and in densely populated areas, after due and repeated consultations with the local population (especially women and the most vulnerable) and the municipal authorities. To sustainably address drainage needs and ensure a fully operational drainage system in the longer-term, a community-based solid waste management is introduced through Sub-Project Fiche 5.2.4 to avoid that ditches are clogged with waste.

Meanwhile, as for the Likangala River that crosses the city and its surrounding flood-prone areas (i.e. Mbedza, Chambo, Sadzi and Likangala wards), interventions that are complementary to the afforestation efforts will tackle river bank erosion, gully building/growth and soil degradation through river-focused interventions (see Sub-Project Fiches 5.2.5) at identified hotspot areas (see map of interventions in Zomba in figure 54). This includes Sub-Project Fiche 5.2.6 that caters the

[47] Updated data on population and beneficiaries: Malawi National Statistics Office (NSO), 2017. Data on disabled could not be updated and stems from NSO, 2010.

rehabilitation or reconstruction of main bridges to cross the river, which are currently at risk of collapse as no repair has been undertaken since the terrible 2015 floods. These bridges are crucial to ensure a proper connectivity and circulation of people and goods within the city, which is especially important for evacuation purposes when a disaster strikes. The same sub-project also includes the rehabilitation of two dams along the Likangala River, with the functions of slowing down the flow of waters in case of river floods and of irrigating peri-urban agricultural areas during the dry season.

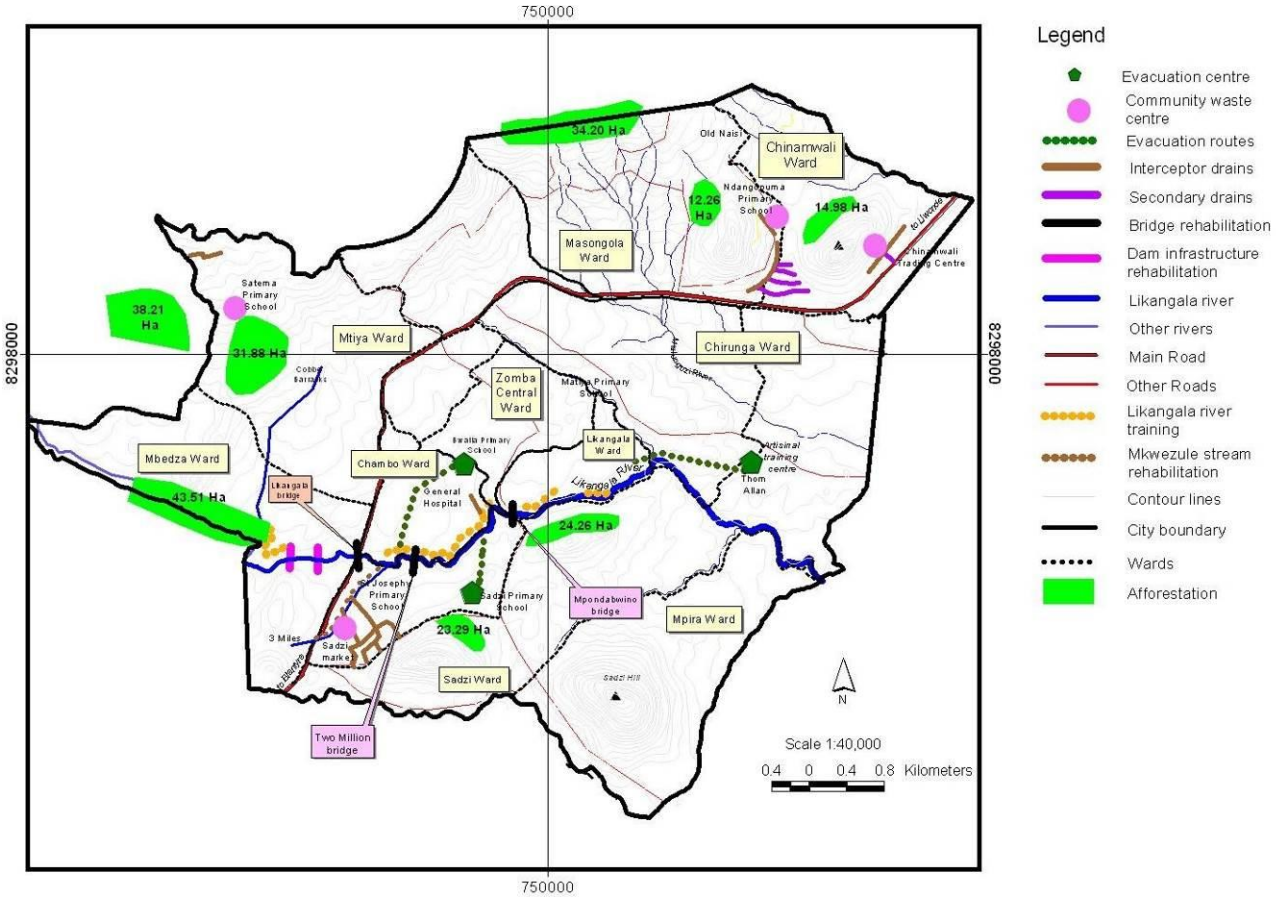
Finally, areas of the city most at risk of floods will be equipped with community-managed safe-havens built according to gender-sensitive standards, also catering for the needs of the elderly and disabled people, connected by improved evacuation routes (see Sub-Project Fiche 5.2.2). In case of an imminent flood, evacuation will be triggered by the city-wide early warning system that will be put in place through Sub-Project Fiche 5.2.1 to ensure improved safety of the population of Zomba.

An overview of the planned sub-projects is presented in table 5, and located in figure 54.

Table 5: Overview of sub-projects for Zomba, Malawi

Sub-project	Target communities / wards	Estimated nr of beneficiaries	Estimated cost (USD)	Cost per beneficiary (USD)
5.2.1. Establishment of a city-wide early warning system for floods	All wards	156,022	140,000	0.90
5.2.2. Construction of multi-purpose evacuation centres	Chambo, Sadzi and Likangala	30,871	275,000	8.91
5.2.3. Rehabilitation of existing drainage channels and construction of new drainage channels	Chinamwali, Masongola, Mtiya, Sadzi	63,760	313,000	4.91
5.2.4. Improving solid waste management	Chinamwali, Masongola, Mtiya, Sadzi	36,060	184,700	5.12
5.2.5. River-focused interventions to prevent erosion and flooding	Mbedza, Sadzi, Chambo and Likangala (along the Likangala River banks)	20,000 (approx.)	450,000	22.5
5.2.6. Construction and rehabilitation of bridges and dams on Likangala River	Likangala, Sadzi and Chambo wards	156,022	160,000	1.02
5.2.7. Sustainable urban forest management	Chinamwali, Masongola, Mtiya, Mbedza, Chambo, Sadzi and Mpira	77,789	350,000	4.50

Figure 54: Map of proposed interventions in Zomba, Malawi



- *Chokwe, Mozambique*

As outlined in Part I, almost the entire city of Chokwe is vulnerable to pluvial and fluvial floods due to its flat topography and its location in the lower Limpopo River basin. During major floods the city is inundated up to 2.5 meters high in some areas. Heavy rains, linked to cyclonic activities coming from the Indian Ocean, result in recurrent loss of lives, assets and livelihoods. In addition, those living in densely populated informal settlements lack access to most basic services.

Considering its chronic vulnerability, the main approach in Chokwe will be “living with floods”, which has been successfully promoted by UN-Habitat in Mozambique since 2002. Specifically, the project in Chokwe will concentrate its activities in four (4) neighbourhoods, which are considered to be the most exposed to natural hazards and where the poorest and the most vulnerable are living, namely: neighbourhoods n. 3, n. 4, n. 5 and, marginally, n. 7.

Some demographic data of these neighbourhoods are provided in table 6.

Table 6: Demographic characteristics of the targeted neighbourhoods in Chokwe

Neighbourhoods	Population / beneficiaries[48]
Neighbourhood n. 3	**10,623** (5,596 female; 2,550 youth; 80 disabled)
Neighbourhood n. 4	**24,000** (13,500 female; 8,000 youth; 100 disabled)
Neighbourhood n. 5	**11,250** (6,500 female; 2,750 youth; 150 disabled)

The selected sub-projects in Chokwe are (see **Annex 5.3**):

- Improving the overall drainage capacity of the city *(Sub-Project Fiche 5.3.1);*
- Construction of safe-havens *(Sub-Project Fiche 5.3.2)*;
- Improving solid waste management *(Sub-Project Fiche 5.3.3)*;
- Enhancing early warning for floods at community level *(Sub-Project Fiche 5.3.4)*.

Once again, these four interventions are integrated and will be implemented in a complementary way. Importantly, they will be geographically confined to the central neighbourhoods of Chokwe, which are more prone to flooding and concentrate the poorest/more vulnerable community groups. Drainage capacity at the city level will be improved through Sub-Project 5.3.1 to allow a faster evacuation of flood waters caused by excessive rain or river flooding. This intervention will be reinforced by Sub-Project 5.3.3 aiming to enhance solid waste management in the areas surrounding/near the rehabilitated/constructed drainage ditches, so that they can keep working efficiently and avoid being clogged with waste. This will also prevent stagnating and dirty waters and reduce health-related hazards, especially the outbreak of water-borne diseases.

Three elevated safe-havens will be built/used during higher floods (Sub-Project Fiche 5.3.2), serving as shelter for the most vulnerable and reducing loss of lives, assets and livelihoods during a flood emergency. Their use will be triggered by improved early warning systems at the community-level (thanks to the delivery of tailored training and capacity building activities) and well-signalled evacuation routes (Sub-Project Fiche 5.3.4). These last two initiatives will be duly coordinated with the stakeholders at the different levels, i.e. municipal, district, regional and central authorities involved in disaster risk management.

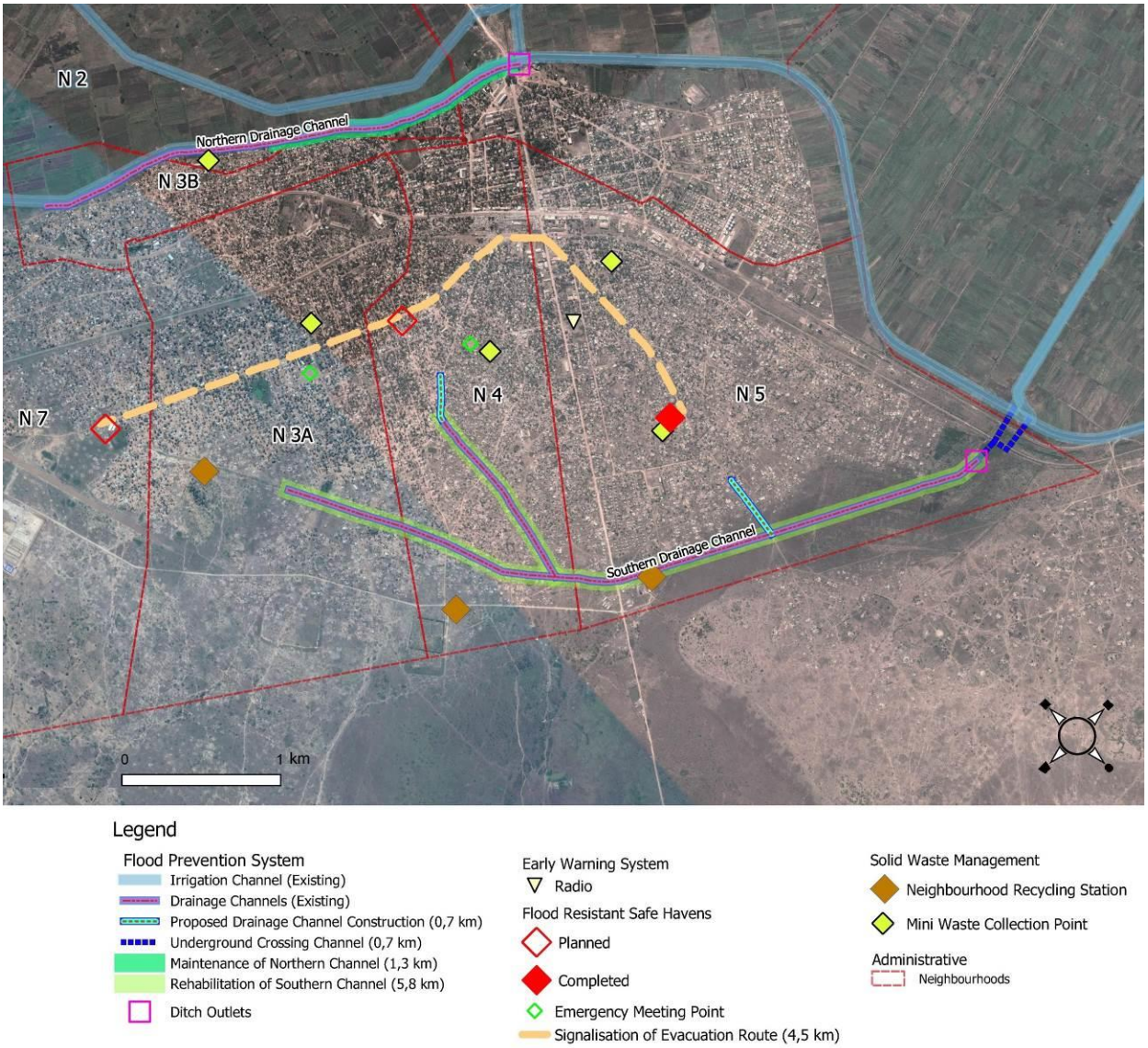
The different sub-projects are summarised in table 7 and figure 55.

Table 7: Overview of sub-projects for Chokwe, Mozambique

Sub-project	Target neighbourhoods	Estimated nr of beneficiaries	Estimated Cost (USD)	Cost per beneficiary (USD)
5.3.1. Improving the overall drainage capacity of the city	Neighbourhoods 3B, 4 and 5	68,000	1,000,000	14.71
5.3.2. Construction of safe-havens	Neighbourhoods 3A, 3B, 5 and 7	41,626	200,000	4.80
5.3.3. Improving solid waste management	Neighbourhoods 3B, 4 and 5	35,000	265,000	7.57
5.3.4. Establish early warning for floods at community level	City-wide	68,000	100,000	1.47

[48] Based on projections from the official 2007 Census, since the final results of the 2017 Census are not yet available.

Figure 55: Map of proposed interventions in Chokwe, Mozambique



- *Moroni, Comoros*

Located on the foot of the Mount Karthala in the volcanic island of Ngazidja, the city of Moroni is exposed to various natural hazard related to extreme climatic events such as storms and cyclones. As explained more in detail in Part I, the city has been undergoing a fast-paced urbanisation process that has resulted in increased vulnerability of its population. This is especially for those households settling in high risk areas, urbanising in an informal manner (i.e. risk increased by weak self-urbanisation/infrastructure development processes), with lack of access to basic urban services, thus creating adaptation barriers.

This is the case of La Coulée neighbourhood, a steep slope area suffering from flash floods as it is part of a large catchment area and lacks of a proper drainage system with subsequent problems of erosion, compounded by uncontrolled dumping of waste and lack of access to drinking water. The neighbourhood concentrates a large proportion of poor households and vulnerable groups and is densely populated. It was built on top of a lava flow resulting from the 1985 eruption. It

represents the main target area of this project in Moroni. During extreme rain events (which have become more and more frequent in recent years) the water flows through altered paths upstream and hits La Coulée with increased strength in an area densely occupied by urban poor, putting the lives, assets and livelihoods of an already vulnerable population at risk.

Solid waste management interventions are planned in both La Coulée and La Médina neighbourhoods. The latter area, which is centrally located, represents the historic city centre and suffers from severe waste management problems that are totally blocking the underground drainage system, provoking heavy runoff or flash floods even during a moderate rainfall event. As this is the economic heart of the city, it is important to improve its climate adaptation characteristics to prevent major negative consequences when it rains heavily on both formal and informal business activities, as these constitute the main livelihoods of a lot of citizens of Moroni, including low-income groups.

Table 8: Demographic characteristics of the targeted neighbourhoods in Moroni

Neighbourhoods	Population / beneficiaries
La Coulée Neighbourhood	**17,496** (10,200 female; 11,600 youth; 46 disabled)
Medina (Badjanani Mtsangani)	**2,249** (1,003 female; 1,345 youth)

In total four (4) Sub-Projects were selected after extensive consultations with the local population and assessment by experts on feasibility and potential social and environmental impacts, namely (see **Annex 5.4**):

- Reinforcing the drainage capacity in La Coulée neighbourhood *(Sub-Project Fiche 5.4.1)*;
- Establishment of community-managed rainwater harvesting systems in La Coulée neighbourhood *(Sub-Project Fiche 5.4.2)*;
- Improving solid waste management in La Coulée and Médina neighbourhoods *(Sub-Project Fiche 5.4.3)*;
- Setting up a flood early warning system in La Coulée neighbourhood *(Sub-Project Fiche 5.4.4)*.

These four (4) Sub-Projects complement each other as they mainly focus on strengthening the climate resilience of La Coulée neighbourhood in an integrated manner. A new and much needed drainage intervention will be carried out through Sub-Project 5.4.1 to reduce the impacts of flash floods resulting from heavy rains, directing part of the water flow towards the sea. This will reduce loss of assets and livelihoods while also improving sanitary conditions in the area, thus minimising the spread of water-borne diseases.

This intervention will be complemented by the setting up of an early warning system for floods in the same neighbourhood (Sub-Project Fiche 5.4.4), which will allow the local population to evacuate safely in case of a flash flood. Additionally (and importantly) a solid waste management initiative will be implemented in La Coulée to avoid that waste hampers the efficiency of the planned drainage system (Sub-Project Fiche 5.4.3). The latter intervention will also be carried out in centrally located Medina neighbourhoods which currently gets flooded even during moderate rainfall events, since the underground drainage channels are completely blocked with waste (see figure 56).

Figure 56: Runoff caused by a moderate rain event in Medina neighbourhood

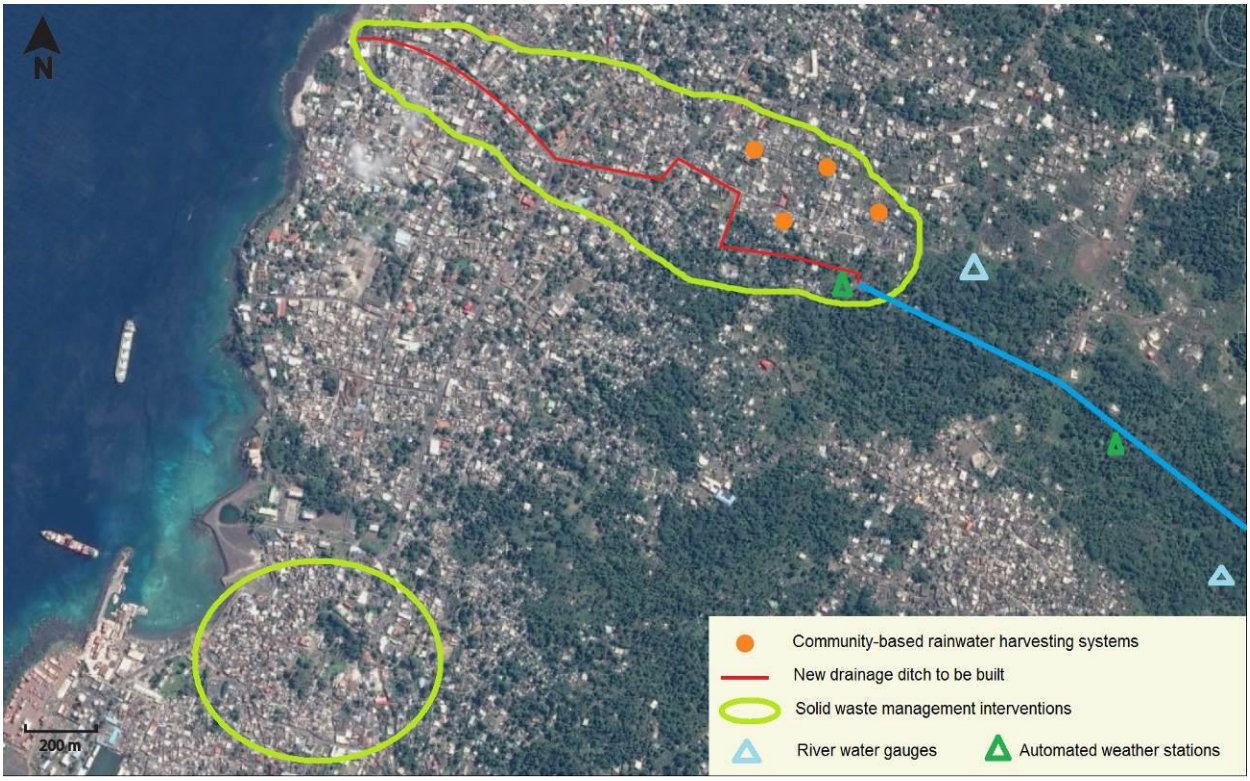
Finally, community-based rainwater harvesting systems will contribute to the further improvement of hygienic conditions and alleviate the harsh living conditions of the most vulnerable people, especially targeting women, the elderly and the disabled, in La Coulée neighbourhood, thus responding to one of the main needs voiced several times by the local community during consultations (see Sub-Project Fiche 5.4.2).

These sub-projects are presented in table 9 and located in the map depicted in figure 57.

Table 9: Overview of sub-projects for Moroni, Comoros

Sub-project	Target communities / neighbourhoods	Estimated nr of beneficiaries	Estimated cost (USD)	Cost per beneficiary (USD)
5.4.1. Reinforcing the drainage capacity in La Coulée neighbourhood	La Coulée	18,000	1,936,300	107.57
5.4.2. Establishment of community-managed rainwater harvesting systems in La Coulée neighbourhood	La Coulée	4,000 (poorest and most vulnerable)	170,000	42.5
5.4.3. Improving solid waste management in La Coulée and Médina neighbourhoods	La Coulée, Medina	20,000	120,000	6.0
5.4.4. Setting up a flood early warning system in La Coulée neighbourhood	La Coulée	18,000	85,000	4.72

Figure 57: Map of proposed interventions in Moroni, Comoros



Under **Component 2**, project activities will occur at the national and local levels to reach the following *Expected Outputs:*

2.1. National tools, guidelines, policies and/or legislation for promoting urban climate adaptation developed;

2.2. National and local officers trained in urban climate adaptation techniques and approaches.

National guidelines, policies, legislation or strategies will be derived from the activities carried out within Component 1 with aim to promote urban climate adaptation at a larger scale in each country concerned by the project (*Expected Output 2.1*). Based on these guidelines, training and institutional capacity development activities of government and municipal officials will be delivered, especially through the organisation of national and sub-national workshops and training sessions (*Expected Output 2.2*). Existing academic/training institutions and networks (e.g. associations of municipalities) will be used for such a purpose, and partnerships/synergies established with on-going initiatives at the national level.

For these two project outputs, the national counterparts in each country were consulted and the following detailed activities were identified.

Table 10: Proposed detailed activities for Expected Outputs 2.1 and 2.2

Country	Output 2.1. National tools, guidelines, policies and/or legislation for promoting urban climate adaptation developed	Output 2.2. National and local officers trained in urban climate adaptation techniques and approaches
Proposed detailed activities in Madagascar	• Develop, validate and disseminate a climate risk assessment guide for urban areas based on the CityRAP methodology, to be tested in Morondava, and to be integrated in the national directives for promoting urban climate resilience in Madagascar; • Further develop the National Strategy for Climate Change Adaptation for Urban Areas, with a focus on reinforcing community resilience, and including a communication plan for its dissemination.	• Development of academic curricula and training resources and mechanisms (e.g. in the form of training of trainers) for promoting climate change adaptation in urban areas at the national level; • Deliver training for adapting to climate change in urban areas to local and regional authorities.
Proposed detailed activities in Malawi	• Develop national guidelines for assessing climate change impacts and for climate proofing infrastructure in urban areas in Malawi; • Develop policy documents for building urban resilience, with focus on climate-related risk; • Develop guidelines for promoting the green cities concept, with emphasis on climate adaptation; • Integrate climate-related building codes/standards in the Revised Safer Housing Construction Guidelines, and facilitate their dissemination and application.	• Training of municipal and national officers in climate change and urban resilience, including risk mapping and zoning techniques; • Organise trainings for disseminating the green cities concept at the national level; • Establish and build the capacity of urban disaster risk management committees, starting with Zomba as a pilot city.
Proposed detailed activities in Mozambique	• Study the possibility to transform the CityRAP Tool into a legal instrument to scale it up at the national level; • Carry out studies and organise specialised workshops and consultations to further integrate climate change adaptation and urban resilience into existing legislation and strategies, such as the Disaster Management Regulations, the Resettlement Law (resettlement caused by climate change impact), the National Strategy for Resilient Infrastructure, the National Strategy for Climate Change Adaptation (integrate urban issues), the Territorial Planning Law, etc.	• Organise additional National Urban Resilience Dialogues in coordination with the World Bank, with focus on climate change adaptation; • Develop training materials on urban resilience and climate change adaptation tailored for different target groups such as: local/central authorities, technicians and community members, and organise training and dissemination mechanisms at the national level.
Proposed detailed activities in Comoros	• Based on the CityRAP experience, improve existing guidelines with regards to urban resilience and adaptation to climate change; • Review existing policy and legislation to introduce concepts of urban resilience/climate change adaptation, something rather new for Comoros.	• Organise training of trainers for government officials and local authorities in all the islands of the archipelago using the CityRAP Tool and other relevant guidelines; • Support the implementation of the CityRAP Tool in at least 2 or 3 cities in every island.

The importance of this national component needs to be re-emphasised. It will allow increasing the project's impact from the city scale to the national scale. The scaling-up of an integrated climate adaptation approach, which has not yet been implemented as such in any city in these four target countries, is critical. Without this component, the project will limit itself to improving the

climate adaptation capacities and resiliency as well as the living conditions of vulnerable groups in the four targeted cities, thus missing a great opportunity for replication, influencing national policies and practices, and establishing multiplier effects mechanisms.

Therefore, while implementing this component, it will be important to produce quality training materials and systematise the newly produced knowledge through existing training institutions. In this sense, as mentioned before, some partnerships with academic institutions were already established through DiMSUR in all four countries. This project will allow operationalizing them at a greater scale, since adequate financial resources to do so were missing up to now. The fact that the project lasts for four years is fundamental, as time is needed so that knowledge can effectively permeate through training institutions to target young professionals, practitioners and government officials, so that urban climate adaptation practices can effectively be mainstreamed in urban management within the medium term.

For this purpose, it will be crucial, of course, to set up partnerships with on-going initiatives (see Section G, Part II) and existing institutions, something UN-Habitat is already working on. This said, again, there are currently few climate adaptation projects targeting cities and towns in these four countries, while the negative impact provoked by more intensive rain and more frequent cyclones on urban centres is providing a sense of urgency on the need to address this situation.

Component 3 will focus on three *Expected Outputs*: (*3.1*) capturing and disseminating the lessons learned and best practices from the implementation of the project activities at the community, city and national levels, using the SADC DRR Unit in partnership with DiMSUR as regional knowledge management platform; (*3.2*) discussing and preparing cross-fertilisation activities among the participating countries; and (*3.3*) organising regional workshops for experience sharing among the different countries, as well as participating to global events; these regional events will target not just the four countries involved in the project, but also other countries in southern Africa interested to promote the concept of climate urban resilience.

This project component highlights the added-value of adopting a regional approach compared to implementing projects in individual countries separately. As already explained at the beginning of this section, learning from each other lessons and best practices in a region affected by similar/transboundary threats related to the negative consequences of climate change, and where knowledge and capacity for urban climate adaptation is still much limited, is of essential importance. Lessons learned will focus on best practices regarding the different adopted approaches in the four cities concerned by the project. A range of diverse technical solutions will be extracted from these local experiences, to be systematised and disseminated further.

Expected Outputs 3.1, 3.2 and 3.3 of this component will be managed by the SADC DRR Unit in cooperation with DiMSUR. These two institutions will play a strong role at the regional level as they already embody credible institutions with complementary roles of sharing experiences, promoting knowledge and delivering trainings. As mentioned above, the upcoming formalisation of the relation between these two institutions through the signature of a tripartite MoU between SADC, DiMSUR and UN-Habitat as a facilitator by July 2018 will certainly facilitate this process. Again, SADC is interested in using the expected results of this project to influence regional policies and strategies regarding disaster risk reduction and climate change adaptation in urban areas. From this perspective, the Government of Mozambique while being consulted for preparing this project has expressed strong interest to play a leading role within SADC to promote a dialogue with other Member States regarding these important issues. Thanks to the long standing technical cooperation of UN-Habitat in Mozambique, this country feels that initiatives and experiences such

as DiMSUR, CityRAP, safer schools, resilient housing and infrastructure, etc., need to be further disseminated in the southern African region.

Therefore, this component will open the project beyond the participating countries and include further SADC countries through inter-country cooperation. For this purpose the role of DiMSUR will be crucial and thanks to this project and other initiatives this centre will be strengthened by establishing its physical presence in Maputo and recruiting the DiMSUR's staff Secretariat starting from mid-2018. DiMSUR will also be able, being part of an international network of centres of excellence, to bring in high level expertise from other regions, such as Asia (through the Asian Disaster Preparedness Centre – ADPC) and Latin America.

Some more detail is provided below regarding the specific planned activities under each expected output of this component, thus strengthening the rationale of this regional outcome of the proposal:

Under Expected Output 3.1: "Capturing and disseminating the lessons learned and best practices"

- Preparation of specific publications on lessons learned and best practices implemented in the 4 target cities that will inform/be useful to the 4 concerned countries and other countries within the SADC region, to be disseminated both through SADC and DiMSUR websites and presented in regional/international events; documenting best practices and lessons learned and making them available through proper knowledge platforms is critical considering that there are currently no appropriate examples of *integrated climate adaptation in urban settings* in this region (NB: this activity will contribute to Output 4 of the SADC DRR Programme Work Plan 2017-2021 – see **Annex 1c**: "Mainstreaming of Disaster Risk Reduction in development plans and strategies enhanced").
- Based on the deliverables under Expected Output 2.1 (national tools, guidelines, policies and/or legislation), derive some *common/harmonised guidelines on urban climate adaptation* for the SADC region that can be followed by other member States and positively influence their own policies, legislation and approaches (NB: this activity will contribute to Output 2 of the SADC DRR Programme Work Plan 2017-2021 – see **Annex 1c**: "National and Regional DRR Information and Knowledge Management Systems operationalized")
- Disseminate these guidelines through regional training sessions to SADC government officials through partners of the SADC DRR Academic Network and/or DiMSUR academic partners (NB: this activity will contribute to Output 3 of the SADC DRR Programme Work Plan 2017-2021 – see **Annex 1c**: "Regional Disaster Risk Reduction policy advocacy and capacity development programme enhanced", as well as Output 4 of the same Work Plan)

Under Expected Output 3.2: "cross-fertilisation activities among countries"

- Facilitate national peer reviews among the four participating countries regarding lessons learned and best practices under Component 1 (at city level) and Component 2 (at national level) in order to identify cross-fertilisation activities (NB: this activity will contribute to Output 3 of the SADC DRR Programme Work Plan 2017-2021 – see **Annex 1c**)
- Based on the identified potential cross-fertilisation activities, government officials from each of the four countries will carry out exploratory missions to another country within the four to learn from the best practices implemented there and replicate them in their own country.
- Each country government will be responsible, with the technical support from DiMSUR/SADC DRR Unit, to develop specific terms of reference or proposals to

operationalize the identified cross-fertilisation activities/best practices, and mobilise funds consequently for such a purpose.

Under Expected Output 3.3: "experience sharing and participating to global events"

- Organise four regional workshops for experience sharing among the four participating countries, one per year, during which on the side steering project committee meetings will take place and annual work plans discussed and approved. The regional workshops will focus on issues related to gender and on identifying best practices implemented at the city and national level, which will also support the planned activities under Expected Outputs 3.1 and 3.2. In addition to the four countries concerned by the project, government representatives from other SADC Member States will be invited, as well as regional actors from academia, the civil society and bi/multi-lateral donors, with the idea to promote climate urban resilience in the region and identify opportunities for resource mobilisation and scaling-up. These workshops will be important platforms to reflect on the project results obtained so far among all stakeholders, and agree on the way forward.
- Project partners will participate to relevant international events related to climate change adaptation, urban resilience and risk reduction, as needed for promoting and disseminating the initiative, and for learning from other similar projects and approaches on-going in other African countries or in other regions.

Importantly, under Component 3, a performance framework will be defined with key monitoring indicators (see also Section E, Part III) to better assess the efficiency and effectiveness of the proposed approach to work through (sub-)regional platforms such as DiMSUR and SADC, based on the Expected Outputs.

CCCCCC. Promotion of new and innovative solutions

Innovation in this project can be considered both as creating something new, but will also be produced by mainstreaming initiatives, approaches, processes, techniques and concepts which are new *vis-à-vis* the local context they are applied. Even though some specific interventions of this proposal do not literally represent approaches that are globally innovative, in the countries involved in this project they certainly have a strong innovation component as they are not yet sufficiently diffused and applied. This project will introduce and pilot them, adapting them to the specificities of each city, making sure to reach the biggest number of beneficiaries, especially the poorest and most vulnerable. Urban resilience in general and urban climate adaptation in particular are not yet concepts that are adequately mainstreamed in policy formulation and implementation in sub-Saharan Africa.

As part of its new approach to climate disaster risk management involving actively states (in particular at sub-national levels) and communities, the project will promote the following absolute innovations:

- It promotes innovative approaches to climate change adaptation involving and strengthening DiMSUR, a new non-profit and autonomous institution which is gradually consolidating in southern Africa and more broadly in the whole African region. It focuses on themes which still need much development in Africa and are not yet institutionalised, such as urban risk reduction, urban climate adaptation and resilience. DiMSUR provides technical assistance

and serves as an exchange platform of good practices, experiences and knowledge between the participating member states (for more information, please consult www.dimsur.org)[49].

DDDDDD. The involvement of DiMSUR represents a powerful mean for the project to mainstream innovative solutions for two main reasons. First, DiMSUR is an innovative institution by itself since this technical centre brings together different stakeholders with different mandates and enhances partnership and networking by focusing on complementarities, collaboration around the implementation of concrete Initiatives, whose results (outcomes) inform the development of national policies and local rules and regulations. DiMSUR brings innovation in how it is structured as it facilitates and fosters opportunities for dialogue and work between Governmental institutions, civil society organisations and communities. Second, in addition to be innovative in terms of structure, DiMSUR represents a vector for mainstreaming innovation by mandate, as it focuses on the implementation of innovative solutions for climate change adaptation, to be specifically applied in urban areas. Through a "learning by doing" approach, it aims to help officials to take a distance from highly theoretical approaches and promote a new paradigm: inform policy formulation from lessons learned from practical implementation and experience.

EEEEEE. Lastly, the centre works towards filling the gaps of national programmes related to urban resilience and disaster risk reduction. As referred earlier when presenting DiMSUR, several important international documents and resolutions have called for the establishment of such type of a centre. The need for increased coordination and collaboration between neighbouring countries threatened by similar climatic hazards to exchange information, knowledge and mutual capacity reinforcement in the area of disaster risk reduction is clearly expressed in key regional and international agreements and strategies. This project will provide an opportunity to further strengthen DiMSUR's role and outreach.

FFFFFF.

- The project promotes the application of the CityRAP Tool, and bases its design on the outcomes derived from the application of the tool in the four targeted cities.

  The CityRAP Tool proposes a new and distinct approach on how municipalities conceive and address disaster risk management (DRM) by considering not just the multi-dimensional vulnerabilities/exposure to risks, but the root causes of these vulnerabilities. It introduces a new municipal model of DRM and resilience governance where each municipal department – according to its own mandate and sectoral competence - is accountable for reducing the root causes of climate related hazards (and urban shocks and stresses in general), and for implementing concrete measures to address the specific threats harming the city in the short, medium and long-term. It promotes a "common language" across the different sectoral departments around climate change, risks and disasters. It combines municipal data around a same reference framework of indicators, based on community knowledge and risks' perceptions of those living and working in the city. All these are key aspects for defining an agreed and shared city Resilience Framework for Action (RFA).

  The CityRAP Tool has been designed by UN-Habitat in partnership with DiMSUR as a response to existing urban governance challenges in sub-Saharan Africa. This tool is axed on the following pillars: i) targeting specifically small and medium-sized African cities with low institutional capacity; ii) focusing on the core areas of urban governance for resilience planning; iii) promoting a process driven by the municipality or local authority throughout; iv) leveraging local knowledge; v) streamlining bottom-up planning and bringing together local communities, beneficiaries and other stakeholders with the local administration in prioritising

[49] NB: The 10-Years Strategic Plan of DiMSUR approved by the Executive Board can be provided upon request.

issues that need to be addressed to build/strengthen the resilience of the respective city; vi) easiness to use and cost effectiveness if compared to other tools that require outside technical expertise and costly data collection methods.

It was design as a dedicated response to the lack of real ownership within planning processes by sub-national authorities. Cities should be the place to plan the future, by city administrations themselves as capable decentralised institutions. However, capacity constraints led many sub-Saharan African cities to resort to outside expertise and support to take key decisions and implement critically important projects. In addition, national and international funding streams often times do not reach local governments and the urban poor, as donors usually work directly with national governments instead of focusing on cities and urban communities[50]. Good urban governance should also be based on civic participation in decision-making, but the citizenry is consistently excluded from the planning processes of local governments in African cities where more meaningful inclusive governance processes are needed[51].

In general, even though a vast array of good approaches, methodologies and tools for building urban resilience exist in the international arena, many of these have in common that they are rather complex, very technical in nature and data-hungry, and thereby foster the approach of bringing in outside expertise and often exclude local stakeholders, communities and civil society from participating to the planning processes. Such barriers become even stronger and compromising in small/intermediate cities, where the presence of experts is often lacking.

With a view to counter these trends, UN-Habitat and DiMSUR have conceptualised the CityRAP Tool to foster a paradigm shift in resilience planning where local administrations and the civil society reclaim the decision-making power at the urban level and work together to reduce risk and build resilience to extreme weather events[52]. This was clearly observed during the testing phase carried out in 2015 and 2016 and implementation in 25 cities in 9 countries in sub-Saharan Africa until December 2017, and recognised in international conferences by discussants from academia and development practitioners with whom UN-Habitat closely collaborates (e.g. Rockefeller Foundation, UNISDR, among others).

For more detailed information on the innovative aspects of the CityRAP tool methodology, kindly refer to **Annex 3**.

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HHHHHH. With respect to the introduction of elements of innovation in the target cities, the following can be highlighted:

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- The project contributes to promote a systemic and structural change by introducing a new municipal “working methodology”, combining vertical and horizontal integration. Horizontal integration brings together different municipal departments for effective intra-departmental

[50] Barry Smith, Donald Brown and David Dodman: Reconfiguring Urban Adaptation Finance, IIED Working Paper 2014, IIED, London;

[51] Gina Ziervogel, Mark Pelling, Anton Cartwright, Eric Chu, Tanvi Deshpande, Leila Harris, Keith Hyams, Jean Kaunda, Benjamin Klaus, Kavya Michael, Lorena Pasquini, Robyn Pharoah, Lucy Rodina, Dianne Scott and Patricia Zweig, 2017: Inserting rights and justice into urban resilience: a focus on everyday risk, in: Environment & Urbanization, Vol 29/1, 2017, p.123-138. Vanesa Castan Broto, Emily Boyd and Jonathan Ensor, Participatory urban planning for climate change adaptation in coastal cities: lessons from a pilot experience in Maputo, Mozambique, in: Current Opinion in Environmental Sustainability 2015 13:11–18.

[52] Ibidun Adelekan, Cassidy Johnson, Mtafu Manda, David Matyas, Blessing U. Mberu, Susan Parnell, Mark Pelling, David Satterthwaite and Janani Vivekananda: Disaster risk and its reduction: an agenda for urban Africa, IDPR, 37 (1) 2015.

collaboration in analysing and concretely responding to the effects of the climate change (i.e. for the waste activities: Waste Department, Environmental Department, Local Development Department, among others). Vertical integration entails instead the institutionalization of collaboration between local government and communities. It represents a shift towards a meaningful participation of the citizens in public affairs. In all the initiatives, communities through community-based organizations/committees will not only benefit from the initiatives but will be actively engaged in the implementation of the activities. This will promote a sense of ownership over the sub-projects by the communities thus contributing to their sustainability. In general, the project contributes to create an integrated municipal system that can be replicated and extended to other sectors and areas, not just for urban climate resilience.

The project privileges a bottom-up approach, i.e. local experiences are mainstreamed into guidelines and strategies at the national and regional level. This allows avoiding the prescriptive and somehow "blind" nature typical of top-down initiatives, which define intervention strategies without first duly taking into account local realities and contexts. UN-Habitat's experience in adopting this kind of approach in regional initiatives (e.g. the Global Environment Facility-funded project in the Limpopo River Basin implemented between 2004 and 2007; or the Urban Resilience Project for Lusophone Africa funded through the UN Secretariat Development Account, concluded in December 2017) shows that it creates a positive dynamic of participation of the stakeholders at the various levels (local, national, regional) for ensuring successful project implementation.

- Within the project, the gender perspective will entail a particular focus on how integrated governance system can concretely improve the access and participation of women and by axed on the recognition of women's role as "agent of change" instead of passive recipients of aid, in line with a more right-based approach, instead if a needs-based one (see Gender Approach in **Annex 6**). This will similarly be applied to work for the inclusion of vulnerable groups identified and already mobilised during the assessment phase.

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Overall, the project considers innovation as strongly linked to knowledge management: the multi-level regional learning generated within Component 3 will be crucial to sustain and enhance the quality and the long-term effectiveness of the adaptation measures, and their scalability and replication to other neighbouring countries, by transferring the innovative approaches tested by this project.

KKKKKK. Economic, social and environmental benefits

The climate impacts (especially by cyclones and floods) in the four cities concerned by the project and the target communities cause loss of lives, affect livelihoods and damage properties, community assets, and the environment. The severity of these climatic events is projected to increase. By implementing a combination of institutional capacity building at regional, national and local levels, including measures to reduce community/assets risk and vulnerability especially in vulnerable/poor urban areas, this project is expected to contribute in preventing future climate-related economic, social and environmental losses.

The most direct and immediate economic, social and environmental benefits generated by the present project will result from the 23 priority Sub-Projects to be implemented in the four selected cities. These benefits have been outlined (qualitatively and quantitatively) with more detail in the Sub-Project Fiches in **Annex 5**. Overall, the activities are meant to increase the capacity to adapt to the current and future impact of climate change in these urban areas, especially to the benefit

of vulnerable communities and groups, mainstreaming gender aspects (see Gender Approach in **Annex 6**). The selected Sub-Projects have been further screened for potential environmental and social impacts and, as needed, mitigation measures have been identified (see also the proposed Environmental and Social Risks Management Plan -ESMP- in **Annex 7**) as well as sustainability strategies and arrangements (see Section K) to ensure that proposed benefits are achieved.

The 23 sub-projects under Component 1 can be grouped in six (6) main areas of interventions to strengthen urban climate resilience:

1. Improvement of drainage conditions;
2. Establishment of early warning systems;
3. Improvement of solid waste management;
4. Construction of multi-purpose safe-havens;
5. Rehabilitation of critical ecosystems and sustainable use of natural resources;
6. Improvement of urban mobility through construction/rehabilitation of roads and bridges.

The tables presented in the following pages describe the overall benefits that each intervention group will bring to the populations of the four target cities. It is important to highlight that vulnerable communities, including women and youth, have been involved throughout the project design to empower them to directly shape project activities and outcomes (see Section I – Consultation), thus ensuring that their needs are met and benefits are meaningful. For more information on gender specific benefits, kindly consult **Annex 6** (Gender Approach).

In addition to the direct benefits resulting from the 23 sub-projects, a series of activities will be conducted at community, city, national and regional level to reinforce capacity on climate change adaptation and ensure a conducing environment (with appropriate tools, rules and necessary knowledge) for the successful implementation of the project and the capitalisation and replication of urban adaptation practices at all levels. The impacts of the present project extend therefore to a potential pool of beneficiaries that go beyond the population of the target cities and the specific benefits of the six intervention areas detailed below.

i) Improvement of drainage conditions

Drainage improvement interventions will be conducted in the four cities. For detailed information and disaggregated data in terms of different types of beneficiaries, please consult the respective sub-project fiches indicated in the table below.

Table 11: Economic, social and environmental benefits generated by the improvement of drainage conditions

Sub-projects *(see Sub-Project Fiches in Annex 5 for more details)*	Benefits			Target groups
	Economic	**Social**	**Environmental**	
5.1.7. Enhancing the drainage capacity in the city centre (Morondova) 5.2.3. Rehabilitation of existing drainage channels and construction of new drainage channels (Zomba) 5.3.1. Improving the overall drainage capacity of the city (Chokwe) 5.4.1 Reinforcing the drainage capacity in La Coulée neighbourhood (Moroni)	Communities will be involved as paid labour in construction works and related maintenance and cleaning needs, thus ensuring them access to a new source of income. Assets (housing, schools, etc), infrastructure, housing, livestock, markets, agricultural areas and urban gardens will be protected from destruction from flash floods and floods. Soil erosion will also be reduced hence the agriculture practice, which is the main subsistence source of the local people, will not be disrupted and can continue even during rainy seasons. High economic costs of flooding caused by damage on infrastructure and assets can be mitigated; flood risk reduction increases confidence of investors in the city;	Erosion, flash floods and floods are mitigated, especially at hotspot flood areas and where people and assets (densely populated areas, schools and hospitals) are at risk. Drainage is not clogged; hence there will be no breeding grounds for mosquitoes and water borne diseases, thus leading to an improvement of public health. By mitigating floods the project will help the farmers in avoiding the severe consequences of floods which usually disrupt their livelihood.	The design of improved drainage conditions will also consider ecosystem-based actions, for which green and blue areas within the city will be involved and restored or new green areas will be created Reduction of soil erosion and land degradation.	People living in flood-prone areas. People living in informal areas. Urban poor.

ii) Establishment of early warning systems

The four cities will benefit from the establishment of city-wide early warning systems. For detailed information and disaggregated data in terms of different types of beneficiaries, please consult the respective sub-project fiches indicated in the table below.

Table 12: Economic, social and environmental benefits generated by the establishment of early warning systems

Sub-projects *(see Sub-Project Fiches in Annex 5 for more details)*	**Benefits**			**Target groups**
	Economic	**Social**	**Environmental**	
5.1.3 Establishment of a city-wide early warning system for floods (Morondova)	Local builders will be receiving trainings on resilient architecture and this will enable them both to maintain the resilient infrastructure, but also to open up new livelihood opportunities to them. Urban areas at risk and land for future city extensions will be demarcated, thus reducing the risk of economic losses through building in vulnerable areas. In this way, the communities will get access to basic services (education, health, industry, banks, markets, etc.) even during the emergency period, avoiding disruption of life thus allowing communities to continue their income-generating activities usually linked to agriculture, farming and services. Risk maps, action plans and budget estimation resulting from each sub-project will easily attract other investors (including Government) interested to allocate funds for some further actions.	The communities will be made aware of the impacts of climate change and of how the climate change impacts can affect differently the different groups in their neighbourhoods. At the same time they will increase their awareness on how to adapt to them in short and long term, thus reducing their vulnerability. People will be warned of extreme weather events well in advance and will be able to take measures (reaching the evacuation centres, etc.) to protect their livelihoods and lives. The needs of vulnerable people have been taken into account in the design of the sub-projects, so for example bicycle ambulances will ensure that disables and elderly reach the evacuation centres as well and that no one is left behind. Prevention of settlement in risky areas through zoning as well as enforcement of building codes for resilient housing will also contribute to save lives.	These actions will increase the awareness of the community about the inter-linkages between the state of the environment and their well-being and safety, increasing the interest of local authorities and of the community to take better care of existing ecosystems.	Households (particular attention to the involvement of women because of their role within the community). Municipal staff. Schools and hospitals.
5.2.1. Establishment of a city-wide early warning system for floods (Zomba)				
5.3.4. Establish early warning for floods at community level (Chokwe)				

5.4.4. Setting up a flood early warning system in La Coulée neighbourhood (Moroni)		Avoiding losses and disruption of basic services thanks to EWS will also contribute positively to public health and poverty reduction in all the target cities.		

iii) Improvement of solid waste management

Solid waste management improvement interventions will be conducted in the four cities in combination with drainage measures to ensure sustainability of flood reduction and ensure better sanitary conditions to the population. For detailed information and disaggregated data in terms of different types of beneficiaries, please consult the respective sub-project fiches indicated in the table below.

Table 13: Economic, social and environmental benefits generated by the improvement of solid waste management

Sub-projects *(see Sub-Project Fiches in Annex 5 for more details)*	**Benefits**			**Target groups**
	Economic	**Social**	**Environmental**	
5.1.8. Improving solid waste management (Morondava)	SWM system and in particular recycling activities will create new economic opportunities for communities but also for small economic operators that can expand their business along the waste value chain. For the municipality the new SWM system will generate saving with respect to current models, that not only are costly in terms of management, but also in terms of ensuring adequate services to compensate the malfunctioning and the bad impacts on health. Women won't disrupt completely their economic activities because of the local flooding generated by waste blocking drainage. Recycling and compost-making will open up	Public health of local communities will improve due to the reduction of greenhouse emissions and the reduced pollution. New areas will be made available to citizens (for social aggregation purposes etc.), once waste will be collected and removed.	A better SWM will decrease the amount of pollution affecting surface and ground water, soil and air. This leads to a healthy environment and better resources for people and, additionally, to a better state of the ecosystems in general.	Communities, urban poor, municipal staff, SWM stakeholders (people that can take economic advantage out of SWM-related activities).
5.2.4. Improving solid waste management (Zomba)				
5.3.3 Improving solid waste management (Chokwe)				
5.4.3. Improving solid waste management in La Coulée and Médina				

neighbourhoods (Moroni)	avenues for jobs and income. A cleaner city will become more attractive for investments.			

iv) Construction of multi-purpose safe-havens

Six evacuation centres will be built constructed (2 in Chokwe, 3 in Zomba and 1 in Morondava). For detailed information and disaggregated data in terms of different types of beneficiaries, please consult the respective sub-project fiches indicated in the table below.

Table 14: Economic, social and environmental benefits generated by the construction of multi-purpose safe havens

Sub-projects *(see Sub-Project Fiches in Annex 5 for more details)*	**Benefits**			**Target groups**
	Economic	**Social**	**Environmental**	
5.1.4 Construction of a resilient and multi-purpose safe-haven (Morondova)	As citizens will be employed as workforce, this will bring temporary jobs for the poor and most vulnerable thus reducing unemployment and providing with sources of income. Local builders will be receiving trainings on resilient architecture and this will enable them both to maintain the resilient infrastructure, but also to open up new livelihood opportunities to them.	Community involvement as workforce will bring ownership of the intervention and a higher probability of sustainability The construction of resilient multi-purpose centres will not only contribute to save lives, but also will have clear social benefits as a new space for aggregation, training, etc. will be made available to local communities thus positively impacting on social welfare/ cohesion.	The creation of these areas, by involving also some open spaces, will create chances for new green areas in the four cities. Such green areas will be design with a specific attention to the needs of the city and their demand for Ecosystem Services	Everybody in the community, with priority use ensured to the most vulnerable groups and people living alone.
5.2.2 Construction of multi-purpose evacuation centres (Zomba)				
5.3.2 Construction of safe havens (Chokwe)				

v) Rehabilitation of critical ecosystems and sustainable use of natural resource

Various activities will be conducted in the four cities. For detailed information and disaggregated data in terms of different types of beneficiaries, please consult the respective sub-project fiches indicated in the table below.

Table 15: Economic, social and environmental benefits generated by the rehabilitation of critical ecosystems and sustainable use of natural resources

Sub-projects	**Benefits**			**Target groups**
	Economic	**Social**	**Environmental**	

(see Sub-Project Fiches in Annex 5 for more details)				
51.1 Rehabilitation of 180 ha of mangroves (Morondova) 5.1.2. Urban greening interventions in high risk areas (Morondova) 5.2.7 Sustainable urban forest management (Zomba) 5.2.5. River-focused interventions to prevent erosion and flooding (Zomba) 5.4.2. Establishing a community-managed rainwater harvesting system in La Coulée neighbourhood (Moroni)	Communities will be involved in nurseries and tree planting. They will learn new skills that can support them to diversify their sources of income. The planting of nuts and fruit trees will generate further income to households. Communities will overall benefit from new sources of livelihoods (NB: sustainable exploitation will be ensured through several mechanisms – see sub-project fiches and section K) More globally, the current lack of healthy ecosystems / the presence of implied ecosystems in a bad state in the different cities imply high costs to cover the lack of services (crucial to human wellbeing). Thanks to these sub-projects these costs are going to be reduced.	Rehabilitated ecosystems (green spaces, river interventions) will reduce impact of floods and their negative impacts vulnerable population The presence of green spaces will allow for aggregation activities and provide communities with new spaces to be used, thus positively impacting on quality of life and social welfare and cohesion.	Ecosystems will directly benefit from these interventions. The initiative under this sector will contribute to the restoration and creation of crucial ecosystem, enhancing the health of the environment and increasing the benefits related to the goods and services provided by ecosystems.	Vulnerable population leaving near high risk areas. Municipal staff. Schools and universities in the surrounding areas. Farmers and people with activities that hamper or take advantage from ecosystems. Households.

vi) Improvement of urban mobility through construction/rehabilitation of roads and bridges

Urban mobility and connectedness will be improved in Zomba and Morondava. For detailed information and disaggregated data in terms of different types of beneficiaries, please consult the respective sub-project fiches indicated in the table below.

Table 16: Economic, social and environmental benefits generated by the improvement urban mobility through construction/rehabilitation of roads and bridges

Sub-projects *(see Sub-Project Fiches in Annex 5 for more details)*	**Benefits**			**Target groups**
	Economic	**Social**	**Environmental**	

5.1.5. Construction of a flood-proof elevated road with improved drainage capacity (Morondava) 5.1.6. Reconstruction of 3 bridges connecting different neighbourhoods in a resilient manner (Morondava) 5.2.6. Construction and rehabilitation of bridges and dams on Likangala River	Thanks to a better road network the connectivity in the city will improve, impacting positively on its overall economic efficiency and attractiveness. The construction of crucial evacuation routes will also increase the mobility within the towns and neighbourhood, thus positively impacting on economic activities thanks to the enhanced opportunities and connectivity	Improve evacuation conditions during times of emergency Better road access in poor/informal urban areas will allow for installation of basic services such as water, sanitation and electricity networks. Better road access to poor/informal urban areas will also increase social inclusion, as the upgraded informal areas will become more accessible and part of the city. The increased possibilities of participation of the residents also from poor/informal urban areas in the upgrading process will increase their self-esteem and their feeling of citizenship.	A better urban mobility will decrease the amount of traffic (less vehicles and less time on the streets for the same distance) and, consequently, the outdoor pollution. Additionally, there will be less GHG emissions.	Elderly, disabled people and women, who are often in charge of reaching different points of the city for domestic tasks. Municipal staff. Overall population living in each city, especially those living in informal / poor settlements

LLLLLL. Cost-effectiveness

The proposed project will allocate the majority of the funds to Component 1 and as such to priority investments/activities with focus on the effects of cyclones, rainfall, floods, sea level rise/coastal erosion and drought. The priority actions will consist of the six groups of interventions as outlined in section C.

Investment into these areas can be viewed as creating greater capacity to absorb shocks and adapt to climatic impact, thus increasing urban climate resilience, which is the main objective of this proposal. It can further be seen as a prevention of future economic loss as well as the saving of livelihood and lives. As outlined in the project background section, African cities are among the ones with the biggest financing gap for addressing climate vulnerability, and are hence severely challenged by rising economic loss, also due to the fact that most loss is uninsured and governments do not have the financial reserves or access to contingency financing that would allow them to absorb losses, recover and rebuild. This is further complicated by the fact that municipalities are legally autonomous, which limits the needed financial support from central government. This implies that taking no action will lead to incrementally increasing costs in time associated with losses due to storms, floods and landslides as well as lower economic productivity in the affected areas.

Importantly, as outlined in Part I of this project proposal, interventions under Component 1 will be implemented under the leadership of the target municipalities through community involvement (e.g. labour intensive activities) and the support of local civil society organisations. This model of

partnership will allow significant cost-reduction as the concerned municipalities and even the beneficiaries will be expected to provide in-kind support. At the same time, the labour-intensive physical interventions will provide economic benefits to the communities through temporary job-creation, especially targeting women and youth. Importantly, local capacity will be developed to ensure proper management/maintenance of the pilot projects' outcomes in the longer term. A detailed analysis was undertaken in order to validate costs, benefits and effectiveness of Component 1. The results of this analysis per main intervention area are shown in the following tables.

Table 17: Overview of cost effectiveness for each main intervention area under Component 1

Main sectors of intervention	Sub-projects *(see Sub-Project Fiches under Annex 5 for more details)*	Costs in USD and total nr. of beneficiaries	Cost effectiveness rationale
Improvement of drainage conditions	Enhancing the drainage capacity in the city centre (5.1.7 Morondava)	USD 170,000 18,255 people	Poor or lack of drainage is putting property and lives in danger during times of floods and flash floods. The improvement of drainage conditions is essentially cost-effective, since the high economic costs of floods in terms of damage on infrastructure and assets can be avoided. An alternative is to relocate all households to areas deemed safer. Such an undertaking would not only be enormously expensive due to compensation payments but will also be socially and economically disruptive to communities.
	Rehabilitation of existing drainage channels and construction of new drainage channels (5.2.3 Zomba)	USD 313,000 63,760 people	
	Improving the overall drainage capacity of the city (5.3.1 Chokwe)	USD 1,000,000 68,000 people	
	Reinforcing the drainage capacity in La Coulée neighbourhood (5.4.1 Moroni)	USD 1,936,300 18,000 people	
Establishment of early warning system	Establishment of a city-wide early warning system for floods (5.1.3 Morondova)	USD 85,000 63,000 people	An early warning system will enable communities to have access to timely climate risk information, thereby increasing disaster preparedness capacity. This is much more cost effective than the alternative of evacuating people from risk areas once the disaster has already stroke.
	Establishment of a city-wide early warning system for floods (5.2.1 Zomba)	USD 140,000 156,022 people	
	Strengthening early warning for floods at community level (5.3.4 Chokwe)	USD 100,000 68,000 people	
	Establish a flood early warning system in La Coulée neighbourhood (5.4.4 Moroni)	USD 85,000 18,000 people	
Improvement of solid waste management	Improving solid waste management in the city centre (5.1.8 Morondova)	190,000 18,255 people	Improvement of solid waste management system is essentially cost-effective as it avoids the costs of a society suffering from diseases as well as potential costs of pollution and release of leachates. Different options for improving solid waste management exist, and the project privileged those related to awareness-raising for self-organised waste management at the household level, waste separation (organic from inorganic), recycling and re-use. The
	Improving solid waste management (5.2.4 Zomba)	USD 184,700 40,060 people	
	Improving solid waste management (5.3.3 Chokwe)	USD 265,000 35,000 people	
	Improving solid waste management in La	USD 120,000 20,000 people	

	Coulée and Médina neighbourhoods (5.4.3 Moroni)		more costly option of constructing entire new landfills has been avoided.
Construction of multi-purpose safe havens	Construction of a resilient and multi-purpose safe-haven (5.1.4 Morondova)	USD 201,000 26,138 people	Ensuring preparedness and safety during climatic hazards, especially for the most vulnerable, is very cost-effective and even life-saving. Resilient construction and/or retrofitting of public facilities as shelters in case of disaster will secure lives and livelihoods, and reduce post-disaster reconstruction costs, following the logic of 'Building Back Better' promoted by the Sendai DRR Framework. Adopting a 'coping with floods, cyclones, sea level rise or drought' strategy is also more cost-effective than the alternative of relocating the population from areas classified at risk (NB: most of the areas occupied by the targeted cities are in fact at risk).
	Construction of multi-purpose evacuation centres (5.2.2 Zomba)	USD 275,000 30,871	
	Construction of safe-havens (5.3.2 Chokwe)	USD 200,000 41,626 people	
Rehabilitation of critical ecosystems and sustainable use of natural resources	Rehabilitation of 180 ha of mangroves (5.5.1 Morondova)	USD 560,000 27,782 people	Rehabilitating mangroves as coastal protection measure (Morondava) has been chosen as small-scale and locally-adapted and sustainable solutions (e.g. tree/mangrove planting), especially involving communities and labour-intensive man power. This will contribute to protecting assets, infrastructure and investments, hence increasing the cost-effectiveness impact of the project. To reduce the impacts of floods, the option of constructing seawall dykes was discussed but proved to be too costly. Further, the sustainability of the same was questioned and the experience by a previous pilot project financed by the French Development Agency (AFD) cited as example. Alternative options of protection and restoration of ecosystems were chosen as these are less costly and will not only reduce flood impacts but also preserve biodiversity, natural resources and livelihoods of local population through regulated and sustainable exploration.
	Urban greening interventions in high risk areas (5.1.2 Morondova)	USD 120,000 22,663 people	The creation of green spaces prevents the formation of settlements in areas at risk and avoids the loss of lives and future resettlement costs. It is more effective than simply demarcating the areas at risk, and it also brings additional benefits, such as the decrease of urban heat.
	Sustainable urban forest management (5.2.7 Zomba)	USD 350,000 77,789 people	Re-/afforestation and provision of different energy sources (Zomba) will allow mitigating damages provoked by erosion, high rainwater run-off, flooding and landslides on urban infrastructure, services and livelihoods. Alternative options of natural regeneration of forests as opposed to planting would be cheaper but it would take much longer to have a beneficial impact.

	River-focused interventions to prevent erosion and flooding (5.2.5 Zomba)	USD 450,000 20,000 people	River training measures are relatively costly, but deemed cost effective as they will be undertake at crucial pre-identified areas within the main flooding river the aimed at reducing the occurrence of flash floods and mitigating the impacts by focusing on reducing slope instability, reducing the amount and velocity of runoff, and preventing erosion. An alternative, more costly option would be relocation of the population along the river banks and flood prone areas.
	Establishing community-managed rainwater harvesting systems in La Coulée neighbourhood (5.4.2 Moroni)	USD 170,000 4,000 people	Water is essential to life. As for climate change adaptation, improved access to water (Moroni) represents a key strategic element whose importance cannot be over-emphasised. Therefore, improving access to this vital resource for those populations currently living in poor and informal urban settlements which were not supplied with safe drinking water before project implementation should not be questioned from a cost-effectiveness perspective. In addition, lack of access to water for agricultural use during the dry season, something this project will try to address, can be very detrimental in terms of food security and even livelihoods for those farmers living in some of the targeted peri-urban areas.
Improvement of urban mobility through construction/ rehabilitation of roads and bridges	Construct a flood-proof elevated road (920 m) with improved drainage capacity (5.1.5 Morondava)	USSD 425,000 18,929 people	The alternative option of constructing a new road to connect the eastern neighbourhood with the city centre that would need to circumvent the flood prone area. This would result in more transportation costs (attributed to a longer travel distance) for the population, more complex work and higher costs.
	Reconstruction of 3 bridges connecting different neighbourhoods in a resilient manner (5.1.6 Morondava)	USD 250,000 10,943 people	The bridges already exist and currently present a threat to the safety of the population due to their precarious state. It would be cost-effective to rehabilitate them, increasing response/ evacuation capacity during floods and cyclones and improving the overall mobility within the city. The alternative option of constructing a new road to circumvent the channel would result in more transportation costs, complex work and higher cost.
	Construction and rehabilitation of bridges and dams on Likangala River (5.2.6 Zomba)	USD 160,000 156,022 people	The existing main bridge in Zomba represents a threat to the safety of the population due to the erosion of its pillars. Rehabilitating it will be more cost effective than building a new one (estimated at USD 100,000).

As for Component 2, national level planned activities are cost-effective as described in table 18 below.

Table 18: Overview of cost-effectiveness for planned activities under Component 2

Outputs	Planned Activities	Costs (in USD)	Cost-effectiveness rationale
	• Develop a climate risk assessment guide for urban areas based on the CityRAP methodology in Madagascar	40,000	Estimated costs include expertise to be hired, missions and consultations. The four target countries in general possess very few or no tools, guidelines, policies and/or legislation focusing on **urban** climate adaptation. Considering the increased impact of climate change effects on cities and towns in these countries, it seems crucial to make efforts to develop these guiding instruments at the national level, based on the lessons learned and best practices from the integrated urban climate adaptation approach in the 4 targeted cities, as well as from previous/other initiatives which are mentioned in Section G, Part II. Thanks to these instruments, cities will be encouraged to be better prepared, designed, conceived and develop to adapt to climate change. This requires developing these outputs in a participatory and consultative manner, then followed by training and dissemintation (see Expected Output 2.2). Not doing this effort implies having city managers/leaders not having any policy, legal and technical reference document from which to base the way they plan and manage their cities/towns. This pioneering work in these countries is much needed, and the total of 270,000 USD to start it in the 4 countries is a very reasonable amount.
	• Further develop the National Strategy for Climate Change Adaptation for Urban Areas in Madagascar	20,000	
	• Develop national guidelines for assessing climate change impacts and for climate proofing infrastructure in urban areas in Malawi	40,000	
	• Develop policy documents for building urban resilience in Malawi	20,000	
	• Develop guidelines for promoting the green cities concept in Malawi	40,000	
	• Integrate climate-related building codes/standards in the Revised Safer Housing Construction Guidelines in Malawi	20,000	
	• Study the possibility to transform the CityRAP Tool into a legal instrument in Mozambique	20,000	
	• Carry out studies and organise specialised workshops and consultations to further integrate climate change adaptation and urban resilience into existing legislation and strategies in Mozambique	30,000	
	• Improve existing guidelines with regards to urban resilience and adaptation to climate change in Comoros	20,000	
	• Review existing policy and legislation to introduce concepts of urban resilience/climate change adaptation in Comoros	20,000	
	• Development of academic curricula and training resources and mechanisms for promoting climate change adaptation in urban areas in Madagascar	40,000	Activities under this Expect Output are meant to mainly disseminate the tools, guidelines, policies and legislations prepared under Expected Output 2.1. Therefore it is absolutely needed otherwise all these documents will “remain in the shelves” and will not be effectively used. The overall cost (490,000 USD) for disseminating them, including through trainings, to reach cities/towns managers in the 4 countries, as well as sub-national government officers, is reasonable. It is to be noted that countries vary in size (Mozambique being the largest country) and in connectivity conditions (Comoros being an archipelago) so costs vary accordingly. Existing training/academic institutions at the national level will be involved in this
	• Deliver training for adapting to climate change in urban areas to local and regional authorities in Madagascar	80,000	
	• Training of municipal and national officers in climate change and urban resilience, including risk mapping and zoning techniques in Malawi	50,000	
	• Organise trainings for disseminating the green cities concept at the national level in Malawi	30,000	
	• Establish and build the capacity of urban disaster risk management committees in Malawi	50,000	
	• Organise additional National Urban Resilience Dialogues with focus on	20,000	

	climate change adaptation in Mozambique • Develop training materials on urban resilience and climate change adaptation and organise training and dissemination in Mozambique. • Organise training of trainers for government officials and local authorities in all the islands of the archipelago using the CityRAP Tool and other relevant guidelines in Comoros • Support the implementation of the CityRAP Tool in at least 2 or 3 cities in every island in Comoros	100,000 60,000 60,000	process, creating conditions for sustainability as acquired knowledge/training materials will stay and may be used beyond the project's lifetime. As Component 2 will be mainly implemented through national government entities, this will ensure ownership and institutionalisation so that these are not just project outputs, but building blocks towards building greater adaptation and resilience capacities in cities and towns to climate change effects.

The regional approach is a major aspect for ensuring the cost-effectiveness of the project, through the sharing of experience, knowledge and of other resources. The project will ensure cost-effectiveness by relying on the SADC DRR Unit in partnership with DiMSUR for Component 3. These two institutions will take the lead in the regional coordination of activities with UN-Habitat technical support, and make sure that the different actors at the various levels (municipal, national and regional) establish platforms of collaboration and dialogue with each other. Working with the SADC DRR Unit and DiMSUR at the regional level, and with Oxfam International as the single institution coordinating most of the local activities under Component 1 (for more information on Oxfam's role in this project, please see Section A, Part III), will enable staff sharing costs and avoid an excessive spread of financial resources to several institutions. Building upon the experiences, data, information and coordination networks already created at the regional level will be more cost-effective than the implementation of separate new initiatives at the national level.

Further, as already explained in Part I of this proposal, the four target countries are faced with similar climate-related natural threats that will be addressed during this project, thus allowing for streamlined capacity building and support processes that will create an economy of scale during (and, with DiMSUR, even after) implementation.

At the same time, the local circumstances of the target cities are of different nature: Moroni and Morondava are coastal cities while Chokwe and Zomba are located inland, the first suffering from river floods and the second from flash floods due to deforestation. Hence the regional approach will ensure a wealth of knowledge, experiences and climate change adaptation solutions gained that will be valuable for future application beyond the target sites and countries.

Furthermore, as explained in Section A, Part II, without Component 3 the project would miss a great opportunity for replication and scaling up at a larger scale, beyond the four target countries, hence influencing policies and practices in the SADC region and establishing the conditions for multiplier effects mechanisms. The tripartite MoU to be signed soon between SADC, DiMSUR and UN-Habitat will allow formalising such a partnership and enlarging the geographical scope of DiMSUR. Therefore this technical centre represents certainly a cost-effective mechanism to store, manage and disseminate knowledge since it has been officially recognised by all major stakeholders in the region and, in terms of sustainability, it is thought and set up to sustain itself through the cutting-edge and unique services it is able to provide. That is why the World Bank through GFDRR is currently interested in funding it, among other donors. DiMSUR has already received World Bank / GFDRR funding in the past, as well as from the European Union (through the Disaster Preparedness Programme of ECHO) and the UN Secretariat Development Account. Table 19 below provides an overview of the costs involved for this component

Table 19: Overview of cost-effectiveness for planned activities under Component 3

Outputs	Planned Activities	Cost (in USD)	Cost-effectiveness rationale
Output 3.1. Lessons learned and best practices captured and disseminated through the SADC DRR Unit in partnership with DiMSUR as regional knowledge management platform	Preparation and dissemination of publications on lessons learned and best practices implemented in the 4 target cities *(10,000 USD per country)*	40,000	It is crucial to document lessons learned and best practices of this project so that knowledge, methods and experience generated by this project can be source of inspiration and replicated in other cities in the 4 target countries and in the other countries of the SADC region. The cost to do so is reasonable vis-à-vis the importance and potential impact of this activity.
	Preparation of guidelines on urban climate adaptation for the SADC region *(including missions and consultations with the countries)*	50,000	These two activities build on the products derived under Expected Output 2.1 (national tools, guidelines, policies and legislation) and fulfil the work plan of the SADC DRR Unit, so that efforts undertaken at the national level can be up-scaled to the region and all SADC countries can benefit from them. It is believed that the total estimated cost of 130,000 USD is effective for reaching the 16 SADC countries including the regional training. In addition, the process will be embedded in the SADC DRR Unit with technical support from DiMSUR, hence conferring sustainability to the proposed activities.
	Disseminate these guidelines through regional training sessions to SADC government officials *(intensive 5-days course including representatives from all 16 SADC countries)*	80,000	
Output 3.2. Cross-fertilisation activities among the participating countries are discussed and prepared	Facilitate national peer reviews among the four participating countries and identify cross-fertilisation activities *(10,000 USD per country)*	40,000	It is important that the 4 target countries, in addition from learning from each other in terms of knowledge and theoretical approach, are also able to implement in practice what they have learned from the other countries. This is the principle of cross-fertilisation. The cost involved (120,000 USD for 4 countries) is reasonable when thinking of the potential impact and follow-up investment this may trigger in the respective countries, and with regards to reinforced inter-country cooperation on a topic (urban climate resilience) which is still under-developed as of today. DiMSUR will certainly play a crucial role in this process, beyond the life of the project.
	Government officials carry out exploratory missions to another country to learn from the best practices implemented there and replicate them in their own country *(10,000 USD per country)*	40,000	
	Develop specific terms of reference or proposals to operationalize the identified cross-fertilisation activities/best practices *(10,000 USD per country)*	40,000	
Output 3.3. Regional workshops for experience sharing among the different countries, and participation to global events	Organise four regional workshops for experience sharing and project decision-making *(50,000 USD per workshop per year)*	200,000	This proposed activity is not just cost-effective but it is absolutely necessary. From the experience UN-Habitat has in organising regional workshops gathering representatives from the 4 target countries, the estimated cost is correct as countries are not well connected in terms of flights (most have to fly via Nairobi or Johannesburg, making travel quite expensive), there is need for simultaneous translation in 3 languages plus over logistic costs, etc. During these workshops, in addition to experience sharing the Project Steering Committee meetings will be organised as well as other activities which require the gathering of the 4 countries. In addition, participants from other

			SADC Member States need to be invited, so that the initiative (especially through DiMSUR as a catalyst) can be scaled-up, as well as participants from abroad (donors in particular, but also international experts from the academic sector or ADPC) to add/share knowledge and advocate for the initiative beyond the SADC region.
	Participate to relevant international events for both advocacy and learning purposes *(10,000 USD per year)*	40,000	This is important to make sure that key individuals are abreast of on-going discussions at the global level and can also promote the initiative internationally. Setting aside an annual budget of 10,000 USD to cover for travel cost seems reasonable for this purpose.

MMMMMM. Consistency with national or sub-national strategies

At the global level, the project aligns with the New Urban Agenda, the Quito Declaration on Sustainable Cities and Human Settlements for All, approved at the United Nations Habitat III conference in October 2016. It specifically refers to the vision outlined in the new Urban Agenda, being cities and human settlements that are participatory and promote civic engagement and foster social cohesion, inclusion and safety in peaceful and pluralistic societies, where the needs of all inhabitants are met, recognizing the specific needs of those in vulnerable situations; and to the vision to adopt and implement disaster risk reduction and management, reduce vulnerability, build resilience and responsiveness to natural and human-made hazards, and foster mitigation of and adaptation to climate change. The project will contribute to the implementation and localisation of the principles and commitments outlined therein, such as to ensure environmental sustainability by building urban resilience, by reducing disaster risks and by mitigating and adapting to climate change.

The project is further consistent with the Paris Agreement adopted under the United Nations Framework Convention on Climate Change, specifically Article 2 (b) with reference to the objective of increasing the ability to adapt to the adverse impacts of climate change. Importantly, it refers to Article 7.5. of the Paris Agreement, where it is outlined that 'Parties acknowledge that adaptation action should follow a country-driven, gender-responsive, participatory and fully transparent approach, taking into consideration vulnerable groups, communities and ecosystems, and should be based on and guided by the best available science and, as appropriate, traditional knowledge, knowledge of indigenous peoples and local knowledge systems, with a view to integrating adaptation into relevant socioeconomic and environmental policies and actions, where appropriate. The project design adheres to all the outlined principles as further detailed in Part I of this proposal.

Consistency is moreover ensured with the Sendai Framework for Disaster Risk Reduction (DRR) for the period 2015–2030 and its four priorities for action, being: 1) Understanding disaster risk; 2) Strengthening disaster risk governance to manage disaster risk; 3) Investing in disaster risk reduction for resilience; and 4) Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction.

The project further aligns with the Sustainable Development Goals (SDGs) n.11: "Make cities and human settlements inclusive, safe, resilient and sustainable", notably target 5 ("By 2030, to significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in

vulnerable situations) and target 9 ("By 2020, to substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for DRR, holistic disaster risk management at all level); as well as SDG target 13.1: "Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries".

At the continental level, the project is consistent with the Agenda 2063 "The Africa We Want", in that it strengthens climate resilient communities, as called upon in aspiration 1, item 10. It is further consistent with the Mauritius Declaration on the Implementation of the Sendai Framework in Africa and its Programme of Action (PoA), which replaced the Africa Regional Strategy for Disaster Risk Reduction that expired in 2015. In line with the PoA, the project helps to achieve the set targets of increasing integration of DRR in regional and national sustainable development, and climate change adaptation frameworks, mechanisms and processes; as well as increasing the number of countries with, and periodically testing, risk-informed preparedness plans, and response, post-disaster recovery and reconstruction mechanisms.

At the southern Africa level, it takes into account the 10-year Disaster Risk Reduction Strategy of SADC, now concluding[53], which focuses on:

- Strengthening governance, legal and institutional framework at all levels of DRR;
- Facilitating the identification, assessment and monitoring of disaster risks and support enhancement of early warning systems at all levels;
- Promoting usage and management of information & knowledge, innovation & education to build a culture of safety and resilience at all levels in the SADC region;
- Ensuring that DRR becomes a national and local priority with a strong institutional basis for implementation;
- Integrating preparedness and emergency response into disaster risk reduction interventions.

With regard to the alignment to national development and climate change adaptation priorities, the project is consistent with the relevant national strategies and policies in each country.

- *Madagascar:*

The project aligns to the National Adaptation Program for Climate Change (NAPA) elaborated in 2006, which aims at strengthening the country's capacity to adapt to the effects of past and present climate variability and future climate change, and empower the country to address some of the causes of its vulnerability. The present project contributes for advancing all three strategic axes established by the NAPA in Madagascar: (1) Capacity reinforcement; (2) Policy reform; and (3) Integration of adaptation in sectorial policies and project activities. More specifically, the NAPA also identifies and ranks a number of 15 priority projects for addressing the most urgent needs of adaptation in the country; the present proposal is highly aligned with many of the projects and in particular with the two topics on top of the priority ranking: (1) Rehabilitation/reconstruction of dykes, walls and other water protection infrastructure; and (2) Establishment and promotion of sustainable water management practices and associations.

Madagascar launched its National Adaptation Plan (NAP) process in 2012 aiming to reduce climate vulnerability in the medium- and long term, and to integrate climate-related risks and

[53] NB: the new 10-year DRR strategy for SADC will have to align with the recently approved DRR PoA for Africa.

opportunities into development planning and budgeting systems. A UNDP stocktaking report[54] concludes one of the initial steps of the NAP process.

With respect to Madagascar (intended) Nationally Determined contributions, the country identified the following adaptation sectors (agriculture, coastal zone management, human health), as well as ecosystem based adaptation approach (forests, mangroves, biodiversity, water resources) that can have significant benefits on the mitigation. The INDC is conditioned on the provision of financial support from global partners. With regard to the sub-projects under Component 1 of the project, the sectors coastal zone management and mangroves are particular relevant.

The INDC further identifies priority actions that the proposed project aligns to. Relevant adaptation priority actions before 2020 and respective related project component/sub-project are as follows:

- Strengthen climate change adaptation mainstreaming in all strategic/framework documents: Component 2
- Multi-hazard early warning systems primarily that mainly consider cyclones, floods, drought and the public health surveillance: Establishment of a city-wide early warning system for floods (Sub-Project Fiche 5.1.3);
- Effective application of existing or newly established sectorial policies: cyclone resistant buildings standards, flood-resistant terrestrial transport infrastructure standards: Build resilient and multi-purpose safe-haven (Sub-Project Fiche 5.1.4), Construction of a flood-proof elevated road with improved drainage capacity (Sub-Project Fiche 5.1.5); Reconstruction of 3 bridges connecting different neighbourhoods in a resilient manner (Sub-Project Fiche 5.1.6), Enhancing the drainage capacity in the city centre (Sub-Project Fiche 5.1.7);
- Restoration of natural forests and reinforcement of habitat connectivity: Rehabilitation of 180 ha of mangroves (Sub-Project Fiche 5.1.1);
- Identification and sustainable management of climate refuge areas inside and outside protected areas: Urban greening interventions in high risk areas (Sub-Project Fiche 5.1.2);

Madagascar's National Strategy for Risk and Disaster Management (SNGRC), the National Strategy for Climate Change Mitigation (SNACC, currently being finalised), and the National Adaptation Policy (PAN, currently being finalised) are complement the national policy framework. In alignment with the SNGRC 2016-2020 and its strategic objective 5, the project reduces risks at the local and national level and contributes to vulnerability reduction. The project also supports the implementation of the 5th pillar of the National Development Policy that focuses on building resilience to disaster risks, as well as the National Policy for Fighting Climate Change in accordance with the National Environmental Policy.

At city level, the project will strengthen the capacity of Morondava to cope with the impacts of climate change and disaster risk, considering its high vulnerability to floods and cyclones as defined in the Resilience Action Plan of Morondava (2016-2026),supported by UN-Habitat in 2016.

- *Malawi:*

Malawi's National Adaptation Programme of Action (NAPA, 2006) has identified the immediate adaptation measures that need to be taken to reduce the risks posed by climate change and the

[54] http://www.adaptation-undp.org/sites/default/files/resources/madagascar_stocktaking_report_final.pdf

possible impacts of increased severe weather events on Malawi. The NAPA has identified sectors that are affected by climate change and these include agriculture, human health, energy, fisheries, wildlife, water, forestry and gender. The proposed project will especially address the energy, water and forestry sectors of the NAPA.

Malawi commenced the National Adaptation Plan (NAP) process in September 2014 through the establishment of the Core Team which was followed by initial sector training and commissioning of the preparation of Malawi's NAP Roadmap, including a target timeline for the 17 different steps involved in the NAP process (per the UNFCCC guidelines). A recent stocktaking report[55] concludes one of the initial steps of the NAP process.

Malawi's (Intended) Nationally Determined Contributions (INDCs) outline required adaptation measures in the following priority sectors and thematic areas: agriculture (crops, livestock, fisheries), water resources, health, infrastructure, land-use planning, transport, population and human settlements, disaster risk management, forestry, wildlife, energy and gender. For all these sectors, there will be need for multi-sectoral collaboration in the implementation of various projects and programmes. Also, there will be need for capacity building, research, and consideration for disaster risk management as well as the need to harmonise policies. With regard to the concrete identified actions under component 2 of the project, the sectors water, energy, forestry and infrastructure are particular relevant. The overview below compares relevant priority adaptation actions identified in different sectors of the INDCs with the proposed sub-projects in Zomba:

- Water - 'Develop and enhance climate information and early warning systems': Establishment of a city-wide early warning system for (Sub-Project Fiche 5.2.1);
- Energy - 'Promote use of biomass briquettes as substitute for firewood and charcoal'; 'Support an expanded programme of briquette production and use': Sustainable urban forest management (Sub-Project Fiche 5.2.7);
- Forestry - 'Expand afforestation and forest regeneration programmes'; 'Promote growing of drought tolerant and fast growing tree species'; "Some mitigation interventions in the forestry sector also have adaptation co-benefits elements. For example, forest regeneration could spur bee-keeping and indigenous mushroom harvesting thereby taking people-off from forest extractive activities." (INDC p. 11): Sustainable urban forest management (Sub-Project Fiche 5.2.7);
- Infrastructure – 'Construct infrastructure for flood control, transport, etc. (physical barriers for flood prevention)'; 'Develop and implement climate related building codes/standards': Construction of multi-purpose evacuation centres (Sub-Project Fiche 5.2.2); Rehabilitation of existing drainage channels and construction of new drainage channels (Sub-Project Fiche 5.2.3); Construction and rehabilitation of bridges and dams on Likangala River (Sub-Project Fiche 5.2.6);

Malawi has recently developed a National Climate Change Management Policy (NCCMP) whose overall goal is to promote climate change adaptation, mitigation, technology transfer and capacity building for sustainable livelihoods through Green Economy measures. With regard to climate change adaptation, the policy aims to:

a. reduce vulnerabilities of populations in Malawi and promote community and ecosystem resilience to the impacts of climate change;

[55] http://www.adaptation-undp.org/sites/default/files/uploaded-images/malawi_nap_stocktaking_report_final_2016.pdf

b. ensure that women, girls and other vulnerable groups are engaged and involved in planning and implementing climate change adaptation interventions; and

c. ensure that communities are able to adapt to climate change by promoting climate change adaptive development in the long term.

The proposed project is aligned to these climate change adaptation objectives of the policy.

The National Disaster Risk Management Policy is aimed at ensuring that disaster risk management (DRM) is mainstreamed in development planning and policies of all sectors in order to reduce the impact of disasters and ensure sustainable development in the country. One of its key objectives is to promote enforcement of buildings and other infrastructure standards which will lead to a reduction in disaster losses. One of the policy priority areas is the reduction of underlying risks and includes the promotion of good land use planning and management and sound construction of infrastructure; the identification and implementation of long lasting solutions to floods and other disasters. The proposed project will support the realisation of these policy outcomes.

Lastly, in the city of Zomba, the project responds to the identified priority actions developed in the Resilience Action Plan of Zomba (2016-2026) supported by UN-Habitat in 2015 to strengthen the city's coping capacity towards the impacts of climate change.

- *Mozambique:*

Mozambique's National Adaptation Programme of Action (NAPA) was approved by the Council of Ministers in 2007. The Government and development partners have embarked on the NAP development process in December 2016 which will involve a set of trainings to national technicians on the NAP process, stocktaking and definition of a NAP Roadmap. Currently Mozambique is aiming at developing a proposal for the Readiness Green Climate Fund to accomplish the implementation of the NAP.[56]

Mozambique's Intended Nationally Determined Contributions (INDCs)[57] focus on increasing resilience in communities and the national economy including the reduction of climate risks and promoting a low carbon development and the green economy through the integration of adaptation and mitigation in the sectorial and local planning, as established in the National Climate Change Adaptation and Mitigation Strategy (NCCAMS 2013-2030). The NCCAMS identifies the following cross-cutting actions: institutional and legal reform; capacity building and knowledge transfer and research and systematic observation.

The following adaptation actions and policies outlines in the INDC are particular relevant to the proposed project: Capacity Building and Knowledge Transfer; Disaster Risk management (DRM); and Disease Surveillance and Control, as can be seen in direct comparison with sub-projects in Chowke:

- Capacity Building and Knowledge Transfer - 'Develop climate resilience mechanisms for infrastructures, urban areas and other human settlements and tourist and coastal zones'; 'Increase the adaptive capacity of the most vulnerable groups'; 'Develop and ameliorate the level of knowledge and capacity to act on climate change': Construction of safe havens (Sub-Project Fiche 5.3.2);

[56] Source: UNDP presentation on launching of the NAP Process in Mozambique and direct consultations with directly involved institutions

[57] Ministry of Environment, Land and Rural Development, 2016

- Disease Surveillance and Control – 'Reduce people´s vulnerability to climate change related vector borne diseases or other diseases': Improving the overall drainage capacity of the city (Sub-Project Fiche 5.3.1);
- Disaster Risk Management – 'Reduce climate risks through the strengthening of the early warning system and of the capacity to prepare and respond to climate risks': Strengthening early warning for floods at community level (Sub-Project Fiche 5.3.4).

The proposed project will also contribute directly to the implementation of the National Strategy for Climate Change Adaptation and Mitigation (2013-2025). In particular, the project will advance the defined strategic action: 'develop mechanisms for resilience in urban areas and other settlements', and its two related indicators: (1) 'number of informal settlements upgraded with sanitation'; and (2) 'number of people benefitting from urban sanitation programmes'. The action will also directly contribute to achieving the following strategic actions: Improve adaptive capacity of vulnerable people; Improve preparedness and response capacity to climatic risks; Improve capacity for managing water resources.

It also contributes to the Government's Five Year Plan (2015-2019), specifically priority five with the strategic objective of reducing risk and adapting to climate change and reducing the vulnerability of communities, economy and infrastructures to climate risks. It further addresses the crosscutting issues outlined in the 20-year National Development Strategy (2015-2035), being enabling capacity-building of municipal technicians and community members.

Lastly, Chokwe has made climate adaptation one of its highest municipal development priorities. The project will contribute to the implementation of the Resilience Action Plan of Chokwe (2016-2026) supported by UN-Habitat in 2015.

- *Union of Comoros:*

The National Adaptation Programme of Action (NAPA) was completed in 2006 and identified the following sectors as being most affected by climate change: agriculture, cattle breeding, infrastructure, fishing and health. The proposed project will especially address the infrastructure and health sectors of the NAPA, the latter by tackling the inadequate waste management system, which facilitates the development of malaria and presents pollution risks to ground water and shores. Regarding the infrastructure sector, the NAPA highlights its vulnerability to flooding and sea level rise, resulting in erosion and damaging of roads, bridges and public infrastructure. The proposed sub-projects in Moroni related to implementing designing and building a drainage system directly address these issues.

The NAP process in Comoros was officially launched in September 2014. The Government has also developed a NAP process roadmap, aiming to fully mainstream climate related risks and opportunities within medium-and long-term planning processes at national, island and sector level, which is axed on 3 work streams: Enhancing coordination mechanisms and steer the NAP process; Implementing the NAP process; Reporting, monitoring, review and outreach. The work streams incorporate 5 strategic intervention areas which correspond to the identified gaps, as follows: 1) strengthening the overall climate change coordination mechanism and steering the NAP process; 2) strengthening information and monitoring and evaluation systems; 3) building capacity for climate change adaptation in planning and implementation; 4) producing first generation NAP documents; 5) enhancing climate change awareness and mainstreaming climate change adaptation at island level. The proposed project strongly contributes to the above strategic pillars, in particular point 3 and 5.

With regard to the Intended National Determined Contribution (INDC) of the Union of Comoros and its National Policy, Strategy and Action Plan for Climate Change (both approved in 2015), the following priority issues are relevant to the proposed project: land management, including spatial planning, with implications for urbanisation, agriculture and forestry through city planning and informal settlement upgrading in Moroni; waste management; vulnerability reduction of the population located in areas at risk of flooding, cyclones and sea level rise; mainstreaming of climate change adaptation, mitigation and resilience in the legislation and policies; as well as institutional capacity building and community empowerment. The overview below compares proposed sub-projects with adaptation actions and policies identified in the INDC:

- Water – '100% of the population have access to potable water by 2030': Establishing a community-managed rainwater harvesting system in La Coulée neighbourhood (Sub-Project Fiche (5.4.2)
- Integration and sensitization – 'An early warning system is set up to prevent extreme events and to get ready to respond across all sectors; '100% of vulnerable populations are sensitized about the impacts of climate change and are informed about adaptation measures; 'central and decentralized governmental levels beneficiate of a process of capacity building with respect to climate change adaptation': Setting up a flood early warning system in La Coulée neighbourhood (Sub-Project Fiche 5.4.4); project Component 2

It is worthy to note that several challenges are highlighted in the INDC have been identified, such as the need to improve the human capital (institutional building, planning skills, etc.), the lack of financial resources and the need for technology transfer with respect to energy, forestry, agriculture, water, health and risks prevention. Within component 2 and 3, the present proposal positively contributes to filling in the above gaps.

In the Strategy for Rapid Growth and Sustainable Development (2015-2019) the country has given priority to climate change mitigation and adaptation, natural resource management and sustainable development, biodiversity conservation and enhancement of eco-system services as well as disaster risk management. Aligned to strategic areas three and four, the proposed project will strengthen local governance, build capacity and reinforce institutional coordination to enhance urban resilience. Further, in line with the overall objective of the strategy, the project will contribute to climate risk reduction and sustainable development by providing appropriate localised solutions.

The project further aligns with the National Strategy and Action Plan on Disaster Risk Reduction and its six strategic areas, namely: 1) Establishing a legal and institutional framework and mechanisms for disaster risk reduction; 2) Strengthening national, island and community capacity; 3) Development of knowledge, information, education and communication systems on disaster risk management; 4) Promotion of community resilience activities; 5) Sustainable and flexible funding mechanisms; 6) Promotion of regional and international cooperation and coordination. The strategy aims ultimately to substantially reduce losses and damage and to strengthen the resilience of communities (national and local) to disasters.

Lastly, the project will support Moroni city's aspirations to become more resilient to the impact of climate change. The Resilience Framework for Action for Moroni is currently being completed with UN-Habitat support using the CityRAP Tool, and its contents have been taken into account while preparing this project proposal.

NNNNNN. Relevant national technical standards

The project complies with the Environmental and Social Policy and the Gender Policy of the Adaptation Fund. During preparation of the full proposal, a detailed risk screening and impact assessment of all project activities has been undertaken (see a summary in Section L, Part II, and details in **Annex 7** and **Annex 5**).

The National Project Managers (see their role in Section A, Part III) will ensure that all project activities comply with existing national technical standards. At the start of the project, when the sub-projects implementation plans are fully developed with communities and municipalities, including detailed engineering studies (Expected Output 1.1.), the necessary steps to comply with these standards will be detailed-out in addition to the what is described for each country/city below.

While developing the full project proposal, a pre-screening with regard to the needs for Environmental Impact Assessments has been undertaken. The results of the pre-screening are presented in the tables below. Based on this, sub-projects that do not require full EIAs were selected, according to their type or size. This has been checked and confirmed by national and local authorities. Besides that the sub-projects will be fully developed following the standards listed below.

3. Apart from the Environmental and Social Policy and Gender Policy of the Adaptation Fund, the project shall also adhere to UN-Habitat's Environmental and Social Safeguards System (ESSS). The latter outlines that UN-Habitat projects will comply with host country laws and obligations under international law and conventions. It serves as a framework showing UN-Habitat's commitment, capacity and procedures to assess and manage the environmental and social risks of projects. The ESSS is fully integrated with the Project Based Management Policy. The objectives of the ESSS are to: (i) identify and evaluate potential environmental and social risks and negative impacts of projects; (ii) apply a mitigation hierarchy to anticipate and avoid or minimize risks, and where impacts remain, compensate for risks and impacts to people, communities, and the environment; (iii) manage environmental and social safeguards throughout the project; (iv) engage the affected community through disclosure of project-related information and consultation on matters that directly affect them; and (v) ensure that grievances and external communications from stakeholders are responded to and managed appropriately. The ESSS is aligned with United Nations and bi/multilateral institutions' environmental and social safeguard policies. It has been prepared while bearing in mind the safeguard management systems of other organisations including the International Finance Corporation (IFC), the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), and the International Union for Conservation of Nature (IUCN).

4. For the implementation of the project, the following national legislation in the respective countries is of relevance.

- *Madagascar*

Environmental impact assessments (EIAs) in Madagascar are carried out on the basis of Decree n. 99-954 of 15 December 1999, as amended by Decree n. 2004-167 of 3 February 2004 published on 10 July 2000 and 24 May 2004[58]. The integration of EIAs in the project cycle is essential for providing environmental information at key stages. Early results of an EIA may indicate practical design changes that would avoid or reduce adverse environmental impacts or better benefit from environmental benefits. A screening procedure is to be carried out by the

[58] http://saiea.com/dbsa_handbook_update09/pdf/7Madagascar09.pdf

National Office of the Environment and determines if the sub-project must be subject to an EIA or not. Because of the size and type of sub-projects, no full EIAs are required, as illustrated in the table below.

The Madagascar UN-Habitat office works in close collaboration with the Ministry of the Environment of Ecology and Forests, in particular the "National Office for Coordination of Climate Change" which is a management and coordination structure for activities on Climate Change within the same ministry, as well as with the municipality of Morondava.

Table 20: Sub-projects in Morondava, Madagascar, and relevant national standards

Sub-projects *(see Sub-Project Fiches in Annex 5 for more details)*	**Relevant rules, regulations and standards**	**Compliance, procedure and authorising entity**	**Principle 1 triggered during project preparation (and mitigation measure required)**
5.1.1 Rehabilitation of 180 ha of mangroves	**Law n. 90-033 related to the Malagasy Environmental Chart,** modified by Law n. 97-012, Law n. 2004-015, and Law n. 2015-03 which establishes the principles and regulations for environmental management **Inter-ministerial Decree n. 4355/97 defining and delimitating sensitive zones,** including mangroves, coral reefs, dunes, tropical forests, etc.	An environment permit needs to be obtained from the Regional Directorate for the Environment and Forests (DREF) under the National Office for the Environment (ONE) as well as an authorisation from the Municipality An EIA is not necessary as the mangrove rehabilitation is part of the national priorities for climate change adaptation; a similar activity was recently conducted in Tanambao area in Morondava city	Not triggered. No obstacles to obtain an environment permit from the Regional Directorate for the Environment and Forests (DREF) under the National Office for the Environment (ONE) as well as an authorisation from the Municipality Proposed intervention has been discussed with and agreed by authorities
5.1.2 Urban greening interventions in high risk areas	**Law n. 2015-052 related to LUH** (see above) **Law n. 2008-013 related to public domain**	An authorisation from CIRDOMA (Land and Domain Circumscription) and another from the municipality are needed	Not triggered No obstacle to obtain authorisation from CIRDOMA (Land and Domain Circumscription) and another from the municipality Proposed intervention has been discussed with and agreed by authorities
5.1.3 Establishment of a city-wide early warning system for floods	**Law n. 2015-031** related to the National Policy for Disaster Risk Management **Contingency Plan for the Menabe Region** **National Strategy for Disaster Risk Management (2016-2030)**	No specific authorisations needed but collaboration and coordination with the disaster risk management local committees and the National Office for Disaster Risk Management (BNGRC)	Not triggered No obstacles to collaborate and coordinate with the disaster risk management local committees and the National Office for Disaster Risk Management (BNGRC)

			Proposed intervention has been discussed with and agreed by authorities
5.1.4 Build resilient and multi-purpose safe-haven	**Law n. 2015-031** related to the National Policy for Disaster Risk Management **Contingency Plan for the Menabe Region** **National Strategy for Disaster Risk Management (2016-2030)**	An authorisation from the municipality needs to be obtained Collaboration and coordination with the disaster risk management local committees and the National Office for Disaster Risk Management (BNGRC)	Not triggered No obstacles to obtain an authorisation from the municipality No obstacles to collaborate and coordinate with the disaster risk management local committees and the National Office for Disaster Risk Management (BNGRC) Proposed intervention has been discussed with and agreed by authorities
5.1.5 Construction of a flood-proof elevated road with improved drainage capacity	**Decree n. 2013-330 related to the publication of the GPRCIM** (see above)	An authorisation from the municipality needs to be obtained	Not triggered No obstacles to obtain an authorisation from the municipality Proposed intervention has been discussed with and agreed by authorities
5.1.6 Reconstruction of 3 bridges connecting different neighbourhoods in a resilient manner	**Decree n. 2013-330 related to the publication of the Guide for Protection of Roads against Floods (GPRCIM),** which defines mandatory technical standards for all roads and related infrastructure for reducing flood impacts	An authorisation from the municipality needs to be obtained	Not triggered No obstacles to obtain an authorisation from the municipality Proposed intervention has been discussed with and agreed by authorities
5.1.7 Enhancing the drainage capacity in the city centre	**Law n. 2015-052 related to LUH** (see above) **Decree n. 2013-070 related to the Malagasy NIHYCRI** (see above)	An authorisation from the municipality needs to be obtained	Not triggered No obstacles to obtain an authorisation from the municipality Proposed intervention has been discussed with and agreed by authorities
5.1.8. Improving solid waste management in the city centre	**Law n. 2011-002 related to the Health Code** **Law n. 98-029 related to the Water Code**	Authorisations from the municipality and with the prefecture need to be obtained	Not triggered No obstacles to obtain an authorisation from the municipality

	Law n. 90-033 related to the Malagasy Environmental Chart (see above) **Law n. 95-035** authorising the creation of organs responsible for urban sanitation and fixing fees for urban sanitation		Proposed intervention has been discussed with and agreed by authorities

- *Malawi*

The preparation of EIA in Malawi is guided by the 'Guidelines for Environmental Impact Assessment' published by the Government in December 1997. Malawi's EIA process is specifically designed to integrate EIA requirements within the project cycle. This integration is essential for an EIA study to provide timely environmental information at key stages in the project cycle. Thus, early results from an EIA may indicate practical design changes which would avoid or reduce negative environmental impacts, or better capture environmental benefits. As prescribed under Section 24(1) of the Environmental Management Act (EMA), Malawi has a prescribed list of projects for which an EIA is mandatory (List A) and another list (List B) of projects for which an EIA may be necessary. The National Council for the Environment has the authority to issue an EIA certificate.

The activities for Zomba City have been applied to the lists to determine if an EIA is mandatory, may be necessary or not all. The analysis results are shown in Table 19 below. Nevertheless, the proposed projects will have to be submitted to the Environmental Affairs Department for them to determine whether a proposed project is prescribed under the EMA. If not, no further action on EIA requirements needs to be undertaken. If it is prescribed, then a Project Brief must be submitted to the Director.

Table 21: Sub-projects in Zomba, Malawi, and relevant national standards

Sub-projects *(see Sub-Project Fiches in Annex 5 for more details)*	**Relevant rules, regulations and standards**	**Compliance, procedure and authorising entity**	**Principle 1 triggered during project preparation (and mitigation measure required)**
5.2.1. Establishment of a city-wide early warning system for floods	**Disaster Preparedness and Relief Act of 1991**, which establishes the national disaster risk management structure	Coordination with DoDMA is required as DoDMA is responsible for coordinating the implementation of disaster risk management programmes in the country.	Not triggered No need to conduct an EIA Proposed intervention has been discussed with and agreed by authorities
5.2.2. Construction of multi-purpose evacuation centres	**Safer House Construction Guidelines: Technical Manual**, developed in 2010 and revised in 2014 to support households, communities, the Government and other partners in adaptive architecture to reduce exposure to disasters through sound construction	An EIA is not applicable (see Section 24(1) of the Environmental Management Act) The project will prepare detailed designs and apply for town planning and building plans approvals from the	Not triggered No need to conduct an EIA Proposed intervention has been discussed with and agreed by authorities

	Physical Planning Act (2016) and **Zomba city's planning standards and building by-laws** apply within the city jurisdiction	Zomba City Council (ZCC) Town Planning and Building Plans Committee. The ZCC is the planning and building authority within the city jurisdiction. The ZCC Town Planning and Building Plans Committee following consultations with relevant stakeholders will issue town planning and building plans approvals for compliance with town planning and building standards as set out in the Physical Planning Act (2016) and the city building by-laws.	
5.2.3. Rehabilitation of existing drainage channels and construction of new drainage channels	**Environment Management Act, n. 23 of 1996** **Standard Specification for Road and Bridge Works of the Malawi Government (1978)** with specific reference to drainage **Series 2000: Drainage of the SATTC 'Standard Specifications for Road and Bridge Works' of 1998**	As described under section 24 (1) of the Environmental Management Act, drainage and irrigation projects are mentioned under its list B as projects for which an EIA may be required. EIAs may be required for projects that changes water use through drainage or for Agricultural drainage projects of more than 1 ha..	Not triggered As the sub-project will not change water use (focus is on flood water) through drainage, EIAs are not required. The city council confirmed EIAs are not required because of the size and location
5.2.4. Improving solid waste management	**Environment Management Act (EMA), No. 23 of 1996** There is no national law on solid waste management in Malawi. Each town is responsible for municipal waste disposal. Zomba City by-laws apply	As described in Section 38 of the EMA a waste license is required to handle, store, transport, classify or destroy waste other than domestic waste, or operate a waste disposal site. The license is given out by the Environmental Affairs Department. As described under Section 24(1) of the EMA, an EIA is mandatory for the establishment or expansion of any of the following municipal solid waste management facilities serving a population of greater than 1,000 people: (i) Landfill site; (ii) Incineration facility; (iii) Composting facility; (iv)	Not triggered No need to conduct an EIA. Each facility will not serve more than 1000 people. Proposed intervention has been discussed with and agreed by authorities

		Recovery/recycling facility; (v) Waste depots/transfer stations; (vi) Establishment or expansion of on-site waste treatment facilities.	
5.2.5. River-focused interventions to prevent erosion and flooding	**Environment Management Act (EMA), No. 23 of 1996** **Water Resources Act,** 2013 CAP72.03	As described under section 24(1) of the Environmental Management Act, remedial flood and erosion control project river/water interventions are mentioned under its list A as projects for which an EIA is required for shoreline stabilisation projects where the shoreline involved is greater than 50 m. Water Right Permit is required to use and/or abstract water, build dams. The Water Resources Board established under the Water Resources Act is the authority for issuing relevant permits including dam rehabilitation and other related river works.	Not triggered The length of gabions to be placed is less than 50 m per section. The city council confirmed an EIA is not required for this intervention. No obstacle to obtain Water Right Permit
5.2.6. Construction and rehabilitation of bridges and dams on Likangala River	**Public Roads Act, CAP** 69.02, which provides for matters relating to public roads, including maintenance and compensation **Zomba city's planning standards and building by-laws** apply within the city jurisdiction **Standard Specification for Road and Bridge Works of the Malawi Government (1978)**	**OOOOOO.** As described under section 24(1) of the Environmental Management Act, remedial flood and erosion control project are mentioned under its list A as projects for which an EIA is required for the construction of dams or weirs with a height of greater than 2 m, or which divert more than 20 m^3 per second, or any bypass channels or channel realignments to remedy riverine erosion or flooding. The Ministry of Public Works is the custodian	Not triggered No need to conduct an EIA. The intervention focused on rehabilitation of small sections of the dam. The dam itself is less than 2 meters high. Proposed intervention has been discussed with and agreed by authorities There are no obstacles to obtain permits from the ministry and city council.

			of the Public Roads Act and the standard specifications. Designs will need to be approved by the City Council Public Works Committee and the Ministry to ensure compliance with technical standards.	
5.2.7	Sustainable urban forest management	**Environment Management Act, No. 23 of 1996** **National Forestry Act**, specifically the '**Standards and Guidelines for Participatory Forestry in Malawi', 2005**, which provide the basis for all community level forestry interventions from tree planting through to co-management of state forest reserves/plantations **National Forestry Policy (1996) and Forestry Act, CAP 63.01 (1997)**, related to the control and regulation of forest products; the declaration of forest reserves; the protection, control and management of forest products; tree planting and other enterprises **Forest Rules** contain regulations on reforestation, tree felling, etc.	As described under Section 24(1) of the Environmental Management Act, an EIA is mandatory for the establishment of forest plantations greater than 50 ha	Not triggered All target areas for afforestation are smaller than 50 ha (see details in the corresponding sub-project sheet). No need to conduct EIAs. Proposed intervention has been discussed with and agreed by authorities

- *Mozambique*

5. In Mozambique, the Environmental Law defines the legal basis for the use and management of the environment as a means of guaranteeing the country's sustainable development. According to this law, the EIA is an instrument that supports decision-making on the allocation of the environmental license. Environmental licensing shall precede any other legally required license in all public and private activities that may be directly or indirectly affected by the environment. The process of EIA is regulated by Decree n. 45/2004, while environmental auditing and environmental inspection are regulated, respectively, by Decree n. 32/2003 and n. 11/2006.

6. The Proponent is responsible for the assessment process. The EIA is guided by the approved ToR that is established during the scoping stage. The methods of the assessment undertaken in the EIA had to be specified in the ToR. The EIA and simplified reports have to be submitted to MITADER.

The EIA Process Rules define all stages of the EIA process - screening, definition of scope, content of studies, public participation process, review and approval by the environmental authority. Hence, the first step is the screening, which defines the type and level of detail of the environmental and social assessment study. The EIA Mozambican Regulation considers three categories:

Category A: comprises of projects that are of such complexity, magnitude, and likely to produce irreversible impacts, that they require strict monitoring with involvement of independent experts. They may involve economic and physical displacement that cannot be addressed under the specific Regulation on Resettlement Resulting From Economic Activities (Decree No. 31/2012, of 8 August), or they are positioned in areas characterized by highly valued biodiversity and habitats, animal and plants species on the edge of extinction, or may involve projects producing dangerous toxins (carcinogens), pesticides, and extraction and processing of minerals. Category A are projects with significant impacts, for example large scale infrastructures (airports, highways), large-scale agriculture, forestry, fisheries and related industries.

Category B projects involve projects that have no significant impact and are not undertaken in sensitive areas, such as transmission lines, education complexes, and factories involving the production of various types of goods such as construction materials. Projects of Category B require the simplified EIA process including the formulation of ToR and of a Simplified Environmental Report (SER).

Category C projects may create minimal negative impacts and have to comply with General Procedures of Good Practice in Environmental Management.

The project activities have been pre-screened during the full proposal development with regard to the EIA requirements, of which the results are shown in Table 20.

The Process of Environmental Impact Assessment is managed at both national and provincial levels. Both levels have to ensure that the information of the Environmental Licenses is available to the public and that public consultation and hearings are held. Both levels are also competent to involve legal mechanisms to stop EIA activities, or suspend certificates of environmental consultants.

At the Central level, the Ministry of Land, Environment and Rural Development (MITADER) has to guide, review and decide regarding the reports of Categories A+ and A projects which include pre-feasibility studies, Terms of Reference and environmental impact assessment reports. The Ministry issues Environmental Licenses for Categories A+ and A projects and manages the involvement of independent review specialists. At the Provincial level, the Provincial Directorate of Land, Environment and Rural Development is responsible for guiding, reviewing and deciding on the Terms of Reference for simplified environmental impact assessment studies, as well as the General Procedures of Good Practice in Environmental Management for Category C projects.

National Guidelines and Norms for Safe Construction of Public Buildings developed in 2015 under the Safer School Project (2012-2015) supported by UN-Habitat, were endorsed by the Government in 2016, and are currently being applied by the Ministry of Public Works and Water Resources (MOPHR) and the Ministry of Education and Human Development (MINEDH). The guidelines are being disseminated to all public sectors throughout the country through on-the-job trainings and technical assistance by UN-Habitat.

Table 22: Sub-projects in Chokwe, Mozambique, and relevant national standards

Sub-projects *(see Sub-Project Fiches in Annex 5 for more details)*	**Relevant rules, regulations and standards**	**Compliance, procedure and authorising entity**	**Principle 1 triggered during project preparation (and mitigation measure required)**
5.3.1. Improving the overall	**Environmental Law 20/97** (under review); the potential risks associated with this kind	**Ministry of Land, Environment and Rural**	Not triggered

drainage capacity of the city	of infrastructure are reduced, so the project is to be assigned to environmental **Category B** which requires a Simplified Environmental Study (SES); this classification is also because of the length of the main drainage channel to be improved, which is less than 10 km.	**Development (MITADER); Municipality of Chokwe** A Simplified Environmental Study (SES) will be prepared for these interventions, including an Environmental Management Plan (EMP); the SES has to be submitted for Government review and publicly disclosed to the affected communities prior to appraisal. . Decisions regarding EIAs for category B projects can also be taken at the provincial level, within the Provincial Directorates of MITADER.	No obstacle to prepare and submit a Simplified Environmental Study (SES) Proposed intervention has been discussed with and agreed by authorities
5.3.2. Construction of safe-havens	**Environmental Law 20/97**; the potential risks associated with this kind of infrastructure development are reduced, hence this intervention is likely to fall under **Category B.** Category B projects involve projects that have no significant impact and are not undertaken in sensitive areas, involving the production of various types of goods such as construction materials.	**National Institute of Disaster Management (INGC); Municipality of Chokwe** Projects of Category B require the simplified EIA process including the formulation of ToR and of a Simplified Environmental Report (SER). Decisions regarding EIAs for category B projects can also be taken at the provincial level, within the Provincial Directorates of MITADER. A disaster contingency plan needs to be prepared and submitted to the Municipal Council in coordination with INGC, including the safe location, the evacuation routes and the improvement of the early warning system	Not triggered Locations have been proposed by the municipality. No obstacle to develop and submit a disaster contingency plan Proposed intervention has been discussed with and agreed by authorities
5.3.3. Improving solid waste management	Urban Solid Waste Management Regulation, Decree no. 94/2014, of 31st December approved the Regulation for the Management of Solid Municipal Waste ("Regulation"), revoking the Regulation on Waste Management, approved by Decree no. 13/2006, of 15th June.	The Regulation establishes the rules for the management of solid municipal waste within the territory of Mozambique and applies to every individual, as well as to public and private companies that are involved in the production and management of solid municipal waste or of industrial and hospital waste similar to municipal waste. The attributions concerning the management of solid municipal waste are divided between the Ministry that	Not triggered No obstacle to obtain authorisation from the municipality Proposed intervention has been discussed with and agreed by authorities

		supervises the Environment Sector and the Municipal Councils and District Governments, within their respective areas of jurisdiction. For the sake of the Project the authorities will be the MITADER and the Chokwe City Council. All public and/or private entities that carry out activities connected with the management of solid municipal waste, must produce and implement an integrated management plan for the solid municipal waste they manage.	
5.3.4. Establish early warning for floods at community level	**Disaster Risk Management Law 15/2014,** which addresses different aspects of disaster management including prevention, mitigation of disaster effects, relief and assistance operations as well as reconstruction and recovery of affected areas	**National Institute of Disaster Management (INGC); Municipality of Chokwe** A disaster contingency plan needs to be prepared and submitted to the Municipal Council in coordination with INGC, including the safe location, the evacuation routes and the improvement of the early warning system	Not triggered No obstacle to develop and submit a disaster contingency plan Proposed intervention has been discussed with and agreed by authorities

- *Union of Comoros*

In Comoros, the project complies with the Environmental Law n. 94-018/AF, which aims in Article 2 to: a) preserve the diversity and integrity of the environment of the Republic of the Comoros, as an integral part of the universal heritage, which is particularly vulnerable associated with insularity; b) create the conditions for a sustainable quantitative and qualitative use of natural resources for present and future generations; and c) ensure an environmentally sound and balanced living environment for all citizens.

The EIA process is governed by Decree n. 01-052/EC. The EIA of proposed works and activities must involve: a) an analysis of the condition of the site and its environment; b) an assessment of the foreseeable consequences of the implementation of the project on the natural and human environment; and c) the implementation of measures to reduce or eliminate harmful effects on the environment and others non-selected options for the implementation of the project.

The Framework Environmental Law provides for mandatory impact assessment study for major coastal and other developments which have or are likely to have environmental impacts. In accordance with Article 14 of the Environmental Law, the Union of the Comoros has a prescribed list of projects for which an EIA is compulsory. The activities identified for the city of Moroni, i.e. designing and building a drainage system, improving solid waste management at the neighbourhood level, rainwater harvesting at household level, according to this list, do not require a mandatory EIA.

Further of relevance to the project components in Comoros are the Accelerated Growth and Sustainable Development Strategy (SACADD), as well as the Urban Development Code and the Communal Development Plans. The project further follows the objectives of the National Environmental Policy and related action plan.

Concerning the protection of natural habitats, the project will be implemented in the municipality of Moroni. It will not result in unjustified conversion or degradation of critical natural habitats, including those that are: a) legally protected; b) officially recommended for protection; c) recognised by authoritative sources for their high conservation value, including as essential habitat; or d) recognised as protected by traditional or indigenous local communities.

Table 23: Sub-projects in Moroni, Comoros, and relevant national standards

Sub-projects *(see Sub-Project Fiches in Annex 5 for more details)*	**Relevant rules, regulations and standards**	**Compliance, procedure and authorising entity**	**Principle 1 triggered during project preparation (and mitigation measure required)**
5.4.1. Reinforcing the drainage capacity in La Coulée neighbourhood	**Law n. 86-017 related to the Urban Development Code**, which defines standards and procedures for carrying out works in urban areas • **Law of town planning and housing** (Law 86-017) **Environmental Law n. 94-018/AF**, which regulates water management	The drainage intervention needs to comply with the Urban Development Code. For this, authorisation and a permit from the National Directorate of Territorial Planning and the Municipality of Moroni will be obtained. • In the territory of municipalities, as well as in agglomerations, anyone wishing to undertake a residential or non-residential construction must first obtain a building permit or building permit. The building permit is issued by the mayor after preliminary study of the file by the Regional Directorate of Urban Planning and Housing. The decision must be notified to the applicant within two months from the date of filing of the application.	Not triggered No obstacle to obtain authorisation and a permit from the National Directorate of Territorial Planning and the Municipality of Moroni and comply with the Urban Development Code. Proposed intervention has been discussed with the municipality and no obstacles have been identified to obtain this authorization. The municipality also confirmed no EIA is required.
5.4.2. Establishing a community-managed rainwater harvesting system in La Coulée neighbourhood	**Law n. 86-017 related to the Urban Development Code**, which defines standards and procedures for carrying out works in urban areas **Environmental Law n. 94-018/AF**, which regulates water management	Authorisation needs to be obtained from the **National Directorate of Territorial Planning and the Municipality of Moroni**.	Not triggered No obstacle to obtain authorization from the National Directorate of Territorial Planning and the Municipality of Moroni. Proposed intervention has been discussed with and agreed by authorities
5.4.3. Improving solid waste management in La Coulée and Médina neighbourhoods	**Environmental Law n. 94-018/AF**, which regulates waste management (Articles 59-65)	Authorisation needs to be obtained from the **National Directorate of Territorial Planning and the Municipality of Moroni**. All administrative authorisation requests for a development project need to be supported by an environment impact assessment. The Directorate General for the Environment is responsible for the assessment of environment impact studies including environmental licensing approval process.	Not triggered No obstacle to obtain authorization from the National Directorate of Territorial Planning and the Municipality of Moroni. Proposed intervention has been discussed with and agreed by authorities

5.4.4. Setting up a flood early warning system in La Coulée neighbourhood	**National Strategy for Disaster Risk Reduction** **National Contingency Plan** • There is no relevant law yet. The National Action Program for Adaptation to Climate Change (NAPA) is the reference for climate change.	For the establishment of EWS and resilience/DRR related issues, strict coordination needs to be established with the **General Directorate for Civil Security (DGSC)**	No obstacle to coordination with the General Directorate for Civil Security (DGSC) Proposed intervention has been discussed with and agreed by authorities

G. Overlap with other funding sources

Analysis of existing similar initiatives has taken place to avoid duplication. The project is designed to complement and synergise with similar on-going projects and programmes.

Despite of the existence of initiatives in the four targeted countries for climate change adaptation and/or mitigation and disaster risk reduction (e.g. by the World Bank, DFID, USAID, UNDP, UNEP, among others), to UN-Habitat's knowledge, and based on a desk review as well as consultations with local governments and development partners, none is focusing solely on urban climate adaptation in the four cities targeted by this project and is adopting the proposed bottom-up approach, from the local level to the national and regional level, thus mainstreaming participation in each implementation step.

However, several projects were identified that provide complimentary potential. An analysis of lessons learnt from these projects took place and was taken duly into account for the planned activities at the country level and are presented per country below.

➢ *Madagascar*

Based on a mapping of the most recent initiatives related to climate change adaptation in Madagascar, it has been noted that most interventions focus on rural areas and involve relatively modest funding amounts in the areas of disaster risk management, basic services provision, forest protection as well as research in bio-technology and innovation. Direct overlap or strong complimentary potential could not established, except for the integration of climate change impacts into national and regional planning, which will be taken into account when working at the national level on project activities under Component 2.

The following relevant projects/programmes represent lessons learnt that were taken up in project design, and/or complimentary potential:

- Sustainable and integrated littoral planning in Morondava (on-going); Budget: EUR 933,000 financed by AFD, Reunion Island Regional Council, European Union; Executing entity: Municipality of Morondava

The project aims to protect the city of Morondava against coastal erosion and floods by stabilizing the dunes and containing the erosion on the littoral. It further focuses on the dredging of the hydrologic network in the upstream watershed to allow the sediments to settle on the coast. A

third intervention is planned with regard to dredging of the Hellot Channel from the sea to the port of Morondava.
In order to ensure maximum synergies, discussions were held with the AFD team and the municipality and it was jointly decided that the two projects will operate in Morondava from the same office within the municipality to facilitate experience sharing, cooperation and communication. To avoid overlap, the present proposal will focus on the inland flood problem in Morondava while coastal erosion issues are being addressed by the described project. Additionally, UN-Habitat has been invited to be part of the project's steering and scientific committees.
The Adaptation Fund project will be able to build on the following activities planned by the described project: Capacity building efforts; an awareness campaign to inform the population about the benefits and mechanisms of coastal protection and rehabilitation; an environmental study on the littoral.

- Capacity building for the Menabe- Regional Committee Development project (2016)

This project was built on the existence of the Menabe Regional Committee Development (CRD-Menabe) institution set up in 1996 and very active until 2006, with the objective of fostering local development. The initiative was launched by volunteers at the local level with the objective of organising thematic debates, meetings and training to strengthen capacities of local stakeholders. In 2016, internal training sessions have been organised to rekindle the institution. The proposed project will use the CRD network to organise training, awareness raising campaign and sharing of information. The CRD prepared a project proposal for waste collection and recycling in Morondava to be financed by Wateraid but is yet to be approved. If succesful it could complement the activities planned under the proposed AF project with regard to maintenance of the drainage system.

- Coastal protection project in Morondava (2010); Budget: EUR 2,000,000; Donor: AFD (French Development Cooperation)

The project realised 170 m of coastal protection with gabions in order to protect the port area and infrastructure. The high cost of this kind of intervention prevents a replication along the complete length of the city coastline. The proposed project will thus involve cost-effective activities to live with potential flood risks from the sea.
Erosion is still the most important threat in Morondava. While the project "Sustainable and integrated littoral planning in Morondava" mentioned above will focus on interventions to stabilize the dunes and mitigate coastal erosion, the proposed project will focus on giving the municipalities the necessary tools to live with the threat of hazards such as developing an early warning system, strengthen evacuation routes and building resilient shelter

- Tree planting by the ministry of fisheries (2016); Institutions involved: Ministry of Fishery and WWF

This intervention consisted in small scale tree planting in Tanambao. The success of the project was limited due to a wrong choice of species and planting during the wrong season as well as insufficient community involvement. These lessons learnt are reflected in the project design: Communities will be involved to the maximum level to ensure sustainability of the intervention on mangroves. Specifically, a local consultation was undertaken in Tanambao to understand the needs of the population, which were reflected in the project design (see sub-project fiche).

Further, the sub-project will benefit from advice of WWF with regard to planting season and appropriate species.

- Achieving Sustainable Reduction of Risks through Consolidation of Multi-Hazards Architectural DRR Solutions and Physical Planning (2015); Budget: USD 70,000; Donor: European Union, DG ECHO; Executing entity: UN-Habitat, Municipality of Morondava

Implementation of the CityRAP Tool in Morondava city proved to be a very effective way to foster climate urban resilience through municipal and community involvement. A key lesson from this project was the importance of involving community representatives through active participatory methodologies.
The result of this project activity in Morondava was the preparation of the city Resilience Action Plan in 2016 which was used as basis for identifying the priority interventions for this AF project proposal. The participatory assessments conducted were crucial for defining entry points for building urban resilience, which were validated and further refined during the recent consultations held for elaborating this proposal.

- Adapting coastal zone management to climate change considering ecosystem and livelihoods (Menabe, Boeny, Vatovavy Fitovinany and Atsinanana) (2014-2019); Budget: USD 12,050,00 financed by GEF; Executing entity: UNEP, Ministry of Environment and Forests, Regional Administrations

The project is being implemented at the regional level and aims at reducing vulnerability of the coastal zone to climate variability and change through institutional capacity building, concrete coastal adaptation interventions and integration of climate change into policy and planning.
The proposed project will build upon the regional approach to coastal management for adaptation focused on ecosystem and livelihoods. The following areas lend themselves to synergies and collaboration: mangroves ecosystems; promotion of sustainable natural resource use practices and introduction of alternative livelihoods; climate monitoring infrastructure, including coastal EWS

- *Mozambique*

The initial mapping for potentially complimentary projects in Mozambique resulted in a list of initiatives related to water resource management, disaster risk management and climate change adaptation. A vast portfolio of projects on climate change adaptation was found, especially concerning rural areas. Fast paced urbanisation progressively shifts challenges to cities and towns, but this growing demand for urban adaptation projects is still not adequately met in Mozambique. The present proposal attempts to fill this gap by targeting one city and scaling up the experience, methodologies and policy implications to the national and regional levels, taking note of lessons learned from past initiatives and trying to establish synergies with on-going projects. Below a summary of the key projects that provided lessons learnt or present complimentary potential in Mozambique.

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- Regional Multi-Sectoral DRR Assistance Programme for Southern Africa (concluded in 2013); Budget: USD 200,000, financed by European Union, DG ECHO; Executing entity: UN-Habitat; Municipality of Chokwe; Samaritans

The main objective of this project was to provide national and local institutions as with technical support on disaster-resistant shelter and basic infrastructure as well as on urban resilience and

risk reduction, in order to feed evidence for policy making at national and regional level. In Chokwe, where two flood-adapted infrastructures were built (classroom and community radio) and risk maps were developed displaying the risk areas and main land use classes. The infrastructure built by the project will be utilised in the AF project: The elevated community radio will be integrated as part of the proposed early warning system. Resulting from previous experiences, security will be reinforced to avoid possible vandalism and the management of the radio station will be transferred to the Municipal authorities. A key lesson from this project was the importance of building capacities at the community level for promoting adaptive architecture in housing and public buildings such as schools, and improving local construction techniques.

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- Achieving Sustainable Reduction of Risks through Consolidation of Multi-Hazards Architectural DRR Solutions and Physical Planning (2015); Budget: USD 80,000, Donor European Union, DG ECHO; Executing entity: UN-Habitat and Municipality of Chokwe

The project aimed at consolidating the multi-hazard disaster risk reduction architectural measures and practices in Madagascar, Malawi and Mozambique for communities and cities to learn how to live with the hazards. The focus was on training local communities in adapted architecture and to increase the capacity of local authorities and communities to plan for resilience building at city level. Chokwe as target city in Mozambique was the pilot city for the City RAP Tool implementation. The activity resulted in the Resilience Action Plan for Chokwe which was used to identify the priority interventions for this AF project proposal. The Resilience Action Plan of Chokwe was adopted as Chokwe Municipal 5 years Plan, which is the main Municipal Planning Instrument.

Developing the City Resilience Action Plan of Chowke triggered community-led upgrading interventions without any funding in various neighbourhoods. This proved that once communities understand how to build their resiliency and are part of the decision-making process they actively contribute to improving their living conditions. The proposed project built on the participatory planning approach in that it regularly consulted local communities in project design.

- Coastal Cities Adaptation Project (CCAP) (2014-2017); Budget: 15 million, Donor: USAID; Executing entity: Municipalities of Pemba and Quelimane, UN-Habitat

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The project had the objective to promote and develop capacities to resilient housing construction through technical training to local builders and artisans. The project outcomes were the construction of elevated flood-proof housing models using local building materials, and through a set of trainings and participatory sessions the development of the skills of local master builders.

The project proposal will build on the lessons learned for building adapted/elevated critical infrastructure, applying as much as possible techniques based on local material. Local builders will be involved in a set of training sessions to build their capacity for replicating the approach and ensure sustainability of the intervention.

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- Cities and Climate Change Project (concluded in 2013); Budget: USD 120,000,000: Donor: World Bank

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The project was implemented with a purpose of enhancing the capacity of the city to adapt to climate change impacts such like floods and sea level risk in the city of Maputo. The project implemented participatory risk mapping and the prioritization of actions to mitigate climate the impacts and implemented rehabilitation of drainage channels and slum upgrading of the most

vulnerable neighbourhoods (Chamanculo C). It further focused on local government capacity development in CCA, which resulted in the development of a Local Adaptation Plan for Maputo city.

The lessons learned from the implementation of climate change adaptation and mitigation measures at City and Neighbourhood level will bring an added value to the current proposal in a way that challenges and strengths are already regarding such interventions can be already integrated

- ***Malawi***

Similarly to Madagascar and Mozambique, most climate change adaptation related interventions in Malawi have focused on rural areas and especially in the fields of agriculture, forestry and fisheries. However, the attention to climate change adaptation in urban areas is increasing due to the rapid urbanisation and the increased frequency and intensity of disasters affecting urban settlements in recent years. The list below summarises the analysis of similar/related projects found in Malawi tat lend themselves to taking up lessons learnt and generate synergy.

- Enhancing Communities' Resilience Programme (ECRP) 2011-Sept 2017; Budget: GBP 28,000,000; Donors: Donors: DFID, Governments of Ireland and Norway; Executing entities: Two consortia led by Christian Aid and Concern Universal

The programme aimed at increasing the resilience of vulnerable communities to climate variability and change and was implemented in 11 disaster prone districts. It promoted a variety of interventions including disaster risk reduction and early warning systems (EWS), agroforestry, disability and youths. Relevant lessons learnt and recommendations from this project are manifold:

Firstly, it was found that community involvement at all stages of project cycle enhances participation and sense of ownership but the relevance of this hinges on the qualification of community participation and should not be fostered by false expectations such as provision of incentives, sustainability of interventions was less secured.

Secondly, with regard to energy saving cook stoves, the project report recommends that development partners should consider analysing factors influencing uptake of cook stoves and improve on their promotion. With the alarming deforestation rates currently prevailing, cook stoves of any type should continuously be promoted.

Thirdly, the use of youths in disseminating weather-related forecasts has been more helpful than just using the official DRM structures.

Fourthly, weather forecast information is crucial and partners are advised to link up with the Department of Climate Change and Meteorological Services (DCCM) in the Ministry of Natural Resources, Energy and Mining through the Malawi Weather Forum for updates.

In response to this, the project design involves i.) meaningful participation by communities by consulting them throughout detailed project design (quotas in consultations) and involving them as local labour, ii.) promotion of energy efficient cookstoves; iii.) involving youth groups in the communication strategy, trainings and drills for the EWS; iv.) linking up with recommended institutions for timely weather information.

- Integrated waste management in Zomba City (2015); Budget: USD 100,000; Donor: Sister Cities International under the Sino-African Initiatives; Executing agency: Zomba City Council

This project focused on building a waste composting centre close to the sewerage centre in Likangala ward managed by Zomba city council. Poor community engagement and participation resulted in low uptake on waste separation and composting in this project. Lack of integration with existing programmes, weak procurement and project management also affected its implementation. As lesson learnt from this project, the sub-project on solid waste management in Zomba builds on full community level involvement

- MASAF IV project: Strengthening safety nets systems in Malawi (safety net programs on productive community driven public work, Sept 2014-Sept 2018); Budget: USD 1,019,000; Donors: Malawi Government and World Bank; Executing Agency: Local Development Fund

This annual government programme targeting the poor to build small community assets in exchange for cash has built strong foundations for community engagement in project implementation. It is another project which confirmed that community empowerment and engagement is key for successful implementation. This is lessons learnt is taken into account in the proposed project in that it will involve local labour as much as possible in the construction of the planned evacuation centres, drainage and setting up tree nurseries to ensure ownerships and sustainability. The proposed project will influence the productive public works projects in Zomba by integrating climate proofing in the created community assets.

- Lake Chilwa Basin Climate Change Adaptation programme (2010-2017); Donor: Embassy of Norway in Malawi; Executing Agency: LEAD International with the Malawi Forest Research Institute (FRIM).

The programme implemented afforestation activities in the three basin districts of Machinga, Phalombe and Zomba. Lead International explains a very high survival rate of trees raised in tree nurseries (16% higher than the national average) with ownership by the communities. Bee keeping as alternative livelihood had furthermore provided security against theft of trees.

Taking up this lesson learnt, community involvement is strongly anchored in the proposed project. The appropriate techniques regarding afforestation will be chosen with direct advise from the executing entities (LEAD International and FRIM), hence lessons learnt will directly be integrated from the source. The creation of alternative livelihood options (including bee keeping) has been included into the project design as well.

The project also installed weather stations within the basin that focus on recording data for scientific purposes on water resource management, established a community radio in Zomba City, installed gauges in the upper streams of two rivers in Zomba (one at Thondwe and Likangala river respectively) and included a communication and outreach component. The proposed project will make use of the two river gauges installed by the programme and include them in the automated early warning system. It will also build upon the existing community radio station to include it in the dissemination strategy of early warning information.

- Waste for wealth project (2009-2012); Budget: USD 500,000; Donors: UNDP and One UN Fund; Executing Agency: UNDP and UN-Habitat

The project set up a waste transfer station and trained women to make compost. These "waste entrepreneurs" collected garbage from Lilongwe's slums, sorting it and processing organic material into compost for sale. The project has proven to be very successful and driven economic growth: It has shown that turning trash to cash enables poor slum-dwellers to make a living. Each person involved in the project was able to produce about 3 tons of compost per month that sells for USD 80-90, an above-average income for Malawi. Women from a neighbouring district travelled nearly 300 kilometers to learn about the project and possibly embark on their own after having read a newspaper story about it. Such spontaneous growth reflects the project's potential. The project ended in 2012 and has shown to be very sustainable thereafter. Six years after the project the women have built upon the model and expanded the same.

The lessons learnt have been taken up in the project design which aligns with the income generating rationale (community waste entrepreneurs, see sub-project fiche solid waste management for Zomba). The project adopted a more decentralised/ localised approach in order to avoid one community being favoured over another in terms of location of a waste transfer station.

➢ *Union of Comoros*

Most recent climate change adaptation related interventions in the Union of Comoros have focused on rural areas, amongst those, two on-going GEF projects: *'Enhancing Adaptive Capacity and Resilience to Climate Change in the Agriculture Sector in Comoros'* implemented by UNDP, and *'Building Climate Resilience through Rehabilitated Watersheds, Forests and Adaptive Livelihoods'* implemented by UNEP. There is however a new GEF funded project implemented by UNDP and the Government of Comoros that targets climate change resilience at urban and rural settings and has crucial areas of convergence and alignment with the present proposal. These commonalities will be explored through close collaboration to ensure mutual benefit. More details on synergies can be found below, together with a summary of other projects that present complimentary potential or have provided lessons learnt to this project.

- Strengthening Comoros Resilience Against Climate Change and Variability Related Disaster (2018-2022); Budget: USD $8,932,421 (GEF) USD 250,000 (UNDP); pledged co-financing by the government USD 37,930,908; Donors: GEF-LDCF, UNDP; Executing entity: Government of Comoros - General Directorate for Civil Security (DGSC), UNDP

This 5-year project has recently started implementation and has objective of strengthening the adaptive capacity of the Comorian population to manage the current disaster risks and reduce vulnerability to climate change. The Adaptation Fund proposal is highly aligned with the objective, outcomes and output of this project. The potential for complementarity is very high, as there are many areas of convergence but geographical focus differs for each project – as the GEF project targets various settlements and villages in 3 islands of the Union of Comoros. Discussions have been held and will continue with both UNDP and the DGSC to ensure a mutually beneficial collaboration especially for the following activities:

- Under *Component 1, Output 1.1 - Proposed revisions to integrate CC and DRR into policies, strategies and other development initiatives*, the GEF project has as planned activities the provision of trainings on the integration of CC and DRR into policies and strategies. Activities under Component 2 (*Output 2.1 - Guidelines, policies or legislation*

developed for promoting urban climate adaptation and Output 2.2. National and local officers trained in urban climate adaptation techniques and approaches) of the present project at level have similar nature but with a focus on urban areas. Close cooperation with UNDP and DGSC will ensure that training and capacity build activities are integrated as much as possible with complimentary and mutually enriching contents and skills.

- Under *Component 1, Output 1.3 - Efficient system for transmission of early warnings for climate-related disasters is implemented in the three islands,* the GEF project will improve communication system for the transfer of information and develop a telecommunications system (including a telephone switchboard) to increase the capacity to receive and manage emergency calls at national level. The flood early warning system will take this new technology into account and will be developed under the supervision of the DGSC, ensuring full alignment to the national system.
- Under *Component 3, Output 3.3- Community and individual rainwater collection and redistribution systems to reduce vulnerability to droughts*, the GEF project plans to assess solutions, design and develop community-based water management systems in targeted local communities (Moroni Bambao, Oichili Dimani and Hamanvou prefectures). Collaboration under this output for exchanging know-how, experiences and overall information will contribute for better community rainwater harvesting systems under both projects.
- Under *Component 3, Output 3.4 - Flood prevention measures and climate-resilient, low-cost interventions for the protection of populations and socio-economic infrastructure*, the GEF project will assess, design and implement flood prevention intervention in Moroni Bambao, Mutsamudu, Domoni and Fomboni prefectures. Coordination will be beneficial under the activities of the present project focusing on flood risk reduction (drainage improvement in La Coulée, early warning systems trainings and workshops on “living with the floods” approach”).

- Establishment of system for disposal, collection and valorisation of recyclable waste in Moroni (2018); Budget: USD 285,000; Donors: European Union, Japanese Cooperation, French Cooperation; Executing entity: ONG 2Mains

This ongoing project will build a waste sorting and recycling centre and install 12 containers to serve as Voluntary Disposal Points (PAVs) for recyclable waste, besides conducting various awareness raising and capacity building activities. Extensive talks with the local NGO 2mains have already been held and contributed for designing the waste management intervention in Moroni for the present project. Importantly, the PAV container model served as inspiration for the collection points to be established in La Coulée and in the Medina by the Adaptation Fund project. They will also be integrated with the sorting and recycling centre, which will be functioning by July 2018. Close relationship will be kept with 2mains and joint awareness raising and training activities will be held when possible.

- Cities and Climate Change Initiative – City Resilience Action Planning in Moroni (2017); Budget: USD 50,000; Donors: Norway; Executing agency: UN-Habitat

The project’s objective was to build capacity for strengthening urban resilience in Moroni employing the City Resilience Action Planning (CityRAP) tool methodology. The assessment and consultations conducted using the CityRAP methodology allowed identifying the most vulnerable neighbourhoods and the entry points for adapting to climate change. The involvement of national/local authorities as well as of the communities themselves was key to a successful resilience planning process.

The lesson learnt is that participatory processes create awareness and ownership. The principle of bottom up participation has been mainstreamed into the project design. More concretely, the target neighbourhoods (La Coulée) and the main areas of intervention (drainage, waste management, waster access and early warning system) under this project proposal were identified through the CityRAP consultations conducted by UN-Habitat.

- Integration of disaster risk reduction into policies for reducing poverty in the Union of Comoros (2012-2015); Budget: 475,000 USD; Donors: GFDRR; Executing entity: Ministry of Interior, Information and Decentralization, General Directorate for Civil Security (DGSC)

This project focused on establishing a database, developing a national policy and reinforcing capacities for disaster risk management. The lessons learned report mentions important challenges to be taken into account while implementing this AF project, such as the difficulty of mobilising international expertise and the lack of data. It also mentions a significant turn-over among key institutions and partners. More specifically, the project has achieved important outputs that will be built upon during the implementation of this project, as follows:

- The elaboration of National Strategy for Disaster risk reduction: under Component 2.1 of the present project, this document elaborated under the GFDRR project will be analysed and reviewed for introduction of concepts of urban resilience/climate change adaptation, along with other relevant policy and legislation;
- The National Contingency Plan: this document is particular relevant for the establishment of early warning system and appropriate alignment will have to be ensured. Gaps related to urban risk and specific contingency measure should be also added.
- The GFDRR project organised various trainings and workshops different levels on DRM and climate change. The trainings under the present proposal will take into account important lessons learnt from these trainings -e.g. to mitigate the conclusion that there is significant turn-over among key institutions and partners participants in trainings will have various backgrounds and profiles and will have to report back to their peers, ensuring that knowledge goes beyond the individual level.

- Institutional and community support for early warning system for volcanic eruption (2008-2010); Donors: European Union (DG ECHO); Executing entities: Comorian red crescent, COSEP, Observatory of the Karthala

The project was successful in the establishment of an early warning system for monitoring volcanic activity at the national level. A series of lessons learnt that have been taken into account for the conception of the flood early warning system sub-project in Moroni under the present proposal are outlined below:

- The need for local systems to be closely linked to national level for coordination of early warning;
- The necessity to work on awareness raising at the community level to inform communities about the risks they face and prepare them to an early warning system (through participatory mapping, theatre and artistic performances, communication campaigns, among other)
- Local media are key actors for a functional and efficient early warning system

- Use of satellite phone with subscription is efficient but problematic due to complications to maintain subscription and difficulties of use by communities. UHF/VHF radio may be a viable alternative.

H. Learning and knowledge management

Lessons from earlier projects in the countries that relate to climate change adaptation have systematically been taken into account and influenced the project design as outlined in section G above.

For the sake of continuous learning from the proposed sub-projects and initiatives at the city, national and regional level as well as fostering knowledge transfer and sharing, the learning and knowledge management strategy of the proposed project is inspired by UN-Habitat's Results Based Management Framework which focuses on achieving results, improving performance, integrating lessons learned into management decisions and monitoring and reporting on performance. The project's knowledge management system includes clear mechanisms on how to capture, analyse, learn, transfer and share lessons from the sub-projects and initiatives to be undertaken.

Firstly, the KM system enables **capturing and analysing information and learning lessons** from knowledge related to the adaptation related projects.

The Project Supervision Team (PST), which will include a Knowledge Management Assistant, will coordinate the overall knowledge management and project communication. It will carry out regular project monitoring at all levels (regional, national and local/city level) in line with the arrangements for monitoring, reporting and evaluation (see Part III, section D).

As such, it will be responsible for producing/facilitating (i) M&E Plans; (ii) a project inception report; (iii) 6-month, annual and terminal project performance reports; (iv) the mid-term review; (v) technical reports; and (vi) the independent terminal evaluation.

A database for all information on the project will be managed by the PST, including but not limited to the reports outlined above. It will be the central storage for all project outputs captured under project monitoring and review documents and knowledge products and will reduce time required for locating information. This will ensure retrieving and capturing lessons learnt. The database will become a knowledge base of the types of interventions that are successful, and more generally, what works, what does not, and why.

In order to ensure that documents are not simply being accumulated, it will be ensured that lessons learnt are fed back to the process for continuous learning and that they influence strategy development and further project implementation.

Secondly, the KM system integrated in the project enables **transferring the lessons learnt and fostering knowledge sharing** with all climate change stakeholders. This will be realised through Components 2 and 3 of the project.

Component 2 includes systematic bottom-up dissemination of lessons learnt from local to national level, whereby lessons learnt from the local level will be presented at the national level and translated into useful training guidelines and recommendations for evidence-based policy making. Component 2 also includes the further refinement of the CityRAP Tool. Under this aspect the project aims at disseminating the tool widely and making it accessible to other cities and

communities at no cost. The knowledge management strategy foresees to produce informative and easily accessible formats (e.g. videos and online tutorials) that guide municipalities/stakeholders to use the tool without outside intervention.

Component 3 is dedicated to inter-country experience sharing, cross-fertilisation and dissemination of lessons learned at the regional level. The component focuses on transferring learnings from one city and country to another to improve processes, capitalizing on key lessons learned and will essentially assist in streamlining currently scattered and sometimes duplicated efforts. It further focuses on systematically keeping track of experiences gained from the project both to enrich the local, national and global knowledge on climate change adaptation and to accelerate understanding about what kinds of interventions and processes can be seen as best practices for potential replication in the region. Knowledge exchange between the four countries affected by similar climate-related threats is at the core of the project. Regional workshops will be organised with a view to disseminating and capture lessons learnt from the locally implemented sub-projects.

In this context, DiMSUR will work as the framework for knowledge management and sharing, in line with its Charter's objective to "Enable DRR, CCA and urban resilience knowledge, information and exchanges between Member States" (see **Annex 2a**, Article 3.4 (d) of the DiMSUR Charter). DiMSUR aims at compiling and disseminating technical knowledge, functioning as a service provider and performing as a partnership hub for the benefit of its member countries in its core areas. The publication of key findings of the project will be published in peer-reviewed journals and presented at international conferences to enrich the global debate. DiMSUR also has existing mechanisms for information sharing on progress, lessons, plans, milestones through its website which is frequently being visited (www.dimsur.org)[59] and social media (Facebook and Twitter) but also a regular newsletter that is being distributed to a wide audience. These will be leveraged for disseminating information on the process in all four countries as well as lessons learnt throughout the project. A relevant tool for capturing the lessons learnt will further be the SADC web portal for sharing DRR experiences in the region.

A media outreach strategy will include the invitation of both local and national media (press, radio and TV) at key project stages for contributing to awareness-raising and promoting best practices at local and national level.

Overall, sharing knowledge will include webinars, workshops, conferences and a wide range of knowledge products to be created (lessons learned, data, and information on the processes) that will be publicly accessible and widely disseminated, as well as increased capacity/knowledge among all stakeholders. An overview table is given below for each component and relevant knowledge management products.

[59] In the second half of 2016, the website showed a total of 225,646 visitors, with monthly visitors of up to 56,000 people, highlighting the demand and interest in the region.

Table 24: Knowledge management objectives and indicators

Expected project outputs	Learning objectives (lo) & indicators (i)	Knowledge products
Expected Output 1.1. Sub-projects implementation plans fully developed with communities and municipalities, including detailed engineering studies	(lo): Improved understanding of local social and environmental risks pertaining to the sub-projects (i): Number of environmental and social risk assessment studies	Detailed plans for sub-projects, including all technical specifications and designs
Expected Output 1.2. Priority sub-projects are implemented in the four target cities mainly through community involvement as labour-intensive manpower	Improved knowledge of concrete urban climate adaptation projects implemented locally (i): Number of best practices obtained and shared	• Project reports and detailed data collected in each city • Where applicable, physical demonstration sites, including innovative solutions, and training material related to adaptive architecture/infrastructure
Expected Output 1.3. Municipal staff and community members mobilised, trained and equipped for ensuring the sustainable management and/or maintenance of the implemented priority sub-projects	(lo): Improved knowledge of management/maintenance of the priority interventions locally (i): Number of municipal staff and community members trained	• Training material for each city targeting communities (at both city and community level) • Reports of community-to-community learning exchanges within the target cities
Expected Output 2.1 National tools/guidelines/policies/ legislation for promoting urban climate adaptation developed	(lo): Improved national guidelines/policies/legislation for promoting urban climate adaptation (i): Number of guidelines, policies, legislation developed	In Madagascar: Climate risk assessment guide for urban areas, integrated in the national directives for promoting urban climate resilience; Updated National Strategy for Climate Change Adaptation for Urban Areas In Malawi: National guidelines for assessing climate change impacts and for climate proofing infrastructure in urban areas; Policy documents for building urban resilience, with focus on climate-related risk; Guidelines for promoting the green cities concept; Climate-related building codes/standards integrated in the Revised Safer Housing Construction Guidelines In Mozambique: Report on the possibility to transform the CityRAP Tool into a legal instrument; Studies to further integrate climate change adaptation and urban resilience into existing legislation and strategies In the Union of Comoros: Improved existing guidelines with regard to urban resilience and adaptation to climate change; Feasibility report on introducing concepts of urban resilience/climate change adaptation in existing policy and legislation
Expected Output 2.2 National and local officers trained in urban climate	lo): improved capacity in urban climate adaptation (i): number of national/local officers trained	In Madagascar: Improved academic curricula and training resources for promoting climate change adaptation in urban areas at the national level; Training materials for adapting

adaptation techniques and approaches		to climate change in urban areas targeting local and regional authorities In Malawi: Training materials in climate change and urban resilience targeting municipal and national officers; Training materials of urban disaster risk management committees In Mozambique: Report on organised National Urban Resilience Dialogues with focus on climate change adaptation; Training materials on urban resilience and climate change adaptation tailored for different target groups (local/central authorities, technicians and community members) In the Union of Comoros: Training of trainers materials; Report on implementation of the CityRAP Tool in at least 2 or 3 cities in every island
Expected Output 3.1. Lessons learnt and best practices captured and disseminated through the SADC DRR Unit in partnership with DiMSUR as regional knowledge management platform	(lo): Improved knowledge and experience exchange around urban climate adaptation in southern Africa (i): number of publicly shared knowledge products	• Articles published on the DIMSUR and SADC web portals for the wider public informing on the process of project implementation in the different countries • At least one scientific article published in a peer reviewed journal capturing the lessons learnt from the project implementation for the global academic audience
Expected Output 3.2. Cross-fertilisation activities among the participating countries are discussed and prepared		• One detailed report per country on project Component 2 capturing lessons learnt and best practices • One video per country on project Component 2 capturing lessons learnt and best practices • Good practice guides on climate change adaptation solutions derived from local project implementation • Reports of country-to-country and city-to-city learning exchanges
Expected Output 3.3. Regional workshops for experience sharing among the different countries, and participation to global events		Reports of regional best practice workshops for project stakeholders and for global dissemination

I. Consultative process

This project proposal is funded by the Adaptation Fund and aims to comply with all policies with special attention to its Environmental, Social and gender Risk policies. To this end, relevant project information have been timely and regularly presented to relevant stakeholders, from the concept stage to the full proposal stage, to ensure the engagement of partners, targeted institutions and communities allowing to address comments and concerns and make the necessary changes in the project design. Public consultations considered all Parties affected by possible social and environmental risks, involving vulnerable groups and guaranteeing a gender sensitive process.

This section provides an overview what consultations took place during project preparation. Public consultations with target communities/vulnerable groups focused on: 1) identification of specific needs and issues regarding proposed interventions that address climate change related issues (as identified through the CityRAP process); 2) identification and verification of potential environmental and social risks and impacts related to these interventions; and 3) identification of mitigation measures when needed. As outlined in the Part I, Section A, consultations at the regional level focused on project design with the SADC Disaster Risk Reduction Unit. At the national level, consultations focused on line ministries in order to identify national needs and concerns regarding the project, especially concerning Component 2 (see table 23 below). At the local level, consultations focused on identifying local needs and concerns regarding the project and to identify relevant technical standards and how to comply with these.

Annex 6 (Gender Approach) includes information about specific groups needs and issues and how proposed interventions address these

UUUUUU. **Annex 7**, in which all information demonstrating compliance with the ESP is consolidated, will be made available as a separate document for public consultation after approval of the AF , as otherwise more expectations will be raised (which, if not fulfilled, may give place to frustration of community members already consulted several times on the same). The ESMP and this whole project proposal is the result of all the consultations held. **Annex 7** includes: Purpose, Process to comply to the AF ESP, Summary description of the project, Screening and categorization, Environmental and social impact assessment, Arrangements to implement the Environmental and Social Management Plan (ESMP), which in turn includes: Risks management arrangements, Risks monitoring and evaluation arrangements, Grievance mechanism, Overview of potential risks and mitigation measures and monitoring arrangements.

VVVVVV. Annex 8 provides evidence, details and the methodological approach of all consultations held.

WWWWWW. Stakeholder Map of consultations

XXXXXX. *Table 25: Stakeholder map*

Stakeholders	Directly involved in project implementation	Indirectly involved in the project implementation	Minority, indigenous stakeholder and groups	Gender consideration in stakeholder identification
Madagascar				
National and Regional level	• Ministry of Environment, Ecology, Sea and Forestry (AF Designated Authority)	Menabe region representatives	• Association of women with disabilities	• Morondava women association involved

Municipal level	• Morondava City Council including Mayor, deputy mayor, focal points of the CityRAP process • Chiefs of relevant municipal departments and technical staff	• Chiefs of other municipal departments and technical staff • Focal point of ongoing relevant projects • Journalists • Environmental local associations • Local development and risk committees	• Grass-roots associations (Ambohotsimarani) • There is no indigenous population in Morondava	• Gender parity have been encouraged for every consultation exercise
Community level	• Targeted neighbourhood population: Ampasy, Avaradrova, Sans fil and Tanambao	• Representatives of other neighbourhoods		
Malawi				
National level	• Ministry of Finance, Economic Planning and Development (AF Designated Authority); Department of Disaster Management Affairs (DoDMA); • Department of Environmental Management Affairs – Climate Change Section; Department of Forestry	• Forest research Institute of Malawi (FRIM)	• Vulnerable groups (Youth, Elderly, Disabled, HIV, orphans) have been consulted • There is no indigenous population in Morondava	• Consultations with women groups have been organised in Chambo and Sadzi • Gender parity have been encouraged for each consultation
Municipal level	• Zomba City Council including Chief Executive, Chief Urban Planner; Chief Engineer and focal points of the CityRAP process	• Head of municipal departments and technical staff • Community Mobilizer • Zomba District Forest Office • Relevant NGOs Representatives (LEAD internarional) • Sub-contractors for engineers works in Zomba		
Community level	• Targeted neighbourhoods: Chambo, Likangala, Mbedza and Mtiya	• Representatives of other neighbourhoods		
Mozambique				
National level	• Ministry of Land, Environment and Rural Development (MITADER) (AF Designated Authority); National Disaster Management Institute (INGC)	• Oxfam Mozambique • FIPAG (Fundo de Investimento do Patrimonio de Abastecimento da Agua, Investment fund for Water Supply Assets) • ARA-Sul (Regional Water Administration_ Southern)	• Vulnerable groups (Youth, Elderly, Disabled) have been consulted • There is no indigenous population in Morondava	• Consultations with women groups have been conducted in the targeted neighbourhoods • Gender parity have been encouraged for every consultation or working group

Municipal level	• Chokwe City Council including the Mayor, municipal councillors of Urbanization, Environment and Social Sectors and technical staff from the urbanization sector	• HICEP (Chokwe Hydraulic)		
Community level	• Targeted neighbourhood 2, 3, 4 and 5's communities members	• Representatives of other neighbourhoods		
Union of Comoros				
National level	• General Directorate of Civil Security (DGSC) (AF Designated Authority); different ministries • Directorate General of Civil Security	• The Karthala Volcanological Observatory • Ulanga Ngazidga NGO • The Comorian Red Crescent Sociaty • The Comoros University • The National Agency for Civil Aviation and Meteorology • The National association of Mayors	• Due to the difficulty of organising groups of discussion in the Comorian context with HIV positive persons, consultation have been organised with the Comorian Crescent to ensure that the needs of this groups and other vulnerable groups are taken into account • Elerly, people with disabilities and youth have been invited to participate in the consultations. • There is no indigenous population in Morondava	• The National Network for Women and Development participated in different stages of the project proposal design • Groups of women actively participated in the community consultations • Gender parity have been encouraged for every consultation
Municipal level	• Moroni City Council including general Secretary, urban planner,	• Local NGO 2 Mains • Consultant engineer		
Community level	• Chief of communities and community representatives of La Coulée, Madjadjou-Djomani, Oubodoni-Mboueni and Badjanani-Mtsangani	• Chief of communities of other neighbourhoods		

Project information available for public disclosure

Project information has been shared with government representatives involved in the project proposal in each country (see Annex 8, document 1). Also, all relevant project information has been shared with each targeted municipality at the different stages of the project design, allowing them to raise concerns and make comments on the content. At the community level, due to the high level of illiteracy, the fact that communities mostly speak local languages and the complexity of the project proposal, information has been translated, simplified and presented to the communities in order to maximize the level of understanding and interaction/participation during local consultations. Response delivery has been done orally during on-site meetings due to the limited capacity of the consulted population to provide written comments and thus ensuring that everyone had the opportunity to raise their concerns.

Particular attention have been given to the timing and location of the consultations, taking into account local work habits and culture to ensure a maximum access for all to participate, including

vulnerable groups and women. Consultations in the targeted neighbourhood have been organised in community centres or open common areas to be easily accessible by participants. Groups of discussion have been organised with women due to the fact that in the targeted communities of the project, women often face difficulties to be heard in public. Also, discussions with vulnerable groups such as HIV persons, have been conducted in most private areas to ensure their freedom of expression and security.

Table 26: Overview of main stakeholder groups consulted during project preparation at national level

Stakeholder, incl. role / function	Consultation objective	Outcome	Conclusion
Madagascar			
Ministry of Environment, Ecology, Sea and Forestry (AF Designated Authority)	Identification of national needs and concerns regarding the project, (especially for Component 3) and role in project execution	Project proposal endorsed; Activities under Component 3 have been more detailed	Priority tools, guidelines and trainings identified
Malawi			
Ministry of Finance, Economic Planning and Development (AF Designated Authority); Department of Disaster Management Affairs (DoDMA); Department of Environmental Management Affairs – Climate Change Section; Department of Forestry	Identification of national needs and concerns regarding the project, (especially concerning Component 3) and role in project execution	Project proposal endorsed; Activities under Component 3 have been more detailed	Priority tools, guidelines and trainings identified
Mozambique			
Ministry of Land, Environment and Rural Development (MITADER) (AF Designated Authority); National Disaster Management Institute (INGC)	Identification of national needs and concerns regarding the project, (especially concerning Component 3) and role in project execution	Project proposal endorsed by MITADER and INGC, with some few recommendations to be integrated, and agreement in implementing part of Component 3	Detailing of the activities which will be under MITADER and INGC responsibility
Union of Comoros			
General Directorate of Civil Security (DGSC) (AF Designated Authority); different ministries	Identification of national needs and concerns regarding the project, (especially concerning Component 3) and role to in project execution	Project proposal endorsed Activities under Component 3 have been more detailed	Priority tools, guidelines and trainings identified

Consultation timeline

At city and community level, as mentioned the project background, UN-Habitat has carried out preliminary work through the CityRAP Tool in the target countries. The identification of priority actions for building urban resilience has been a highly participatory and comprehensive process. In each target city, a team of municipal technicians was trained and conducted the process of data collection and analysis, prioritisation and drafting of a city resilience action plan under the

lead of the municipality, with UN-Habitat providing support and strategic advice.[60] The consultations involved local authorities, municipal technical staff and communities most affected by risks and climate change, as well as civil society organisations.

The priorities set by key stakeholders consulted in each city have formed the basis for selecting priority investments/activities, in the form of sub-projects, as outlined in Part II, Section A. The final selection of these priority interventions has been made with the target communities through in-depth local consultations between June and October 2017, as well as in March 2018 by using the following selection criteria:

- Critical resilience building needs responding to climate change impacts;
- Cost-effectiveness of the identified priority investments/activities;
- Consideration of potential environmental and social impact and risks and the required mitigation measures, as necessary;
- Envisaged positive economic, social and environmental benefits of the priority investments/ activities;
- Sustainability of the priority investments/activities;
- Avoidance of possible duplication of efforts already undertaken at the city level.

It is important to note that a mapping of vulnerable groups of the targeted communities of the project have been conduct in a participatory manner during the first step of the CityRAP process. Indeed, the selection of the most vulnerable neighbourhoods selected for the project implementation is based on multiple selection criteria. It includes the analyse of risk prone areas but also social and economic vulnerability such as unemployment rate particularly affecting woman and youth, age composition, number of people living with disabilities, presence of minorities and their integration within the communities, among others. These information have been used to prepare the consultation process together with the municipal support and knowledge to engage with relevant groups that could potentially be affected by the project implementation according to local specificities.

After the preliminary work carried out through the participative process of the CityRAP methodology to identified and select the priority activities at the community level at the concept proposal stage, detailed information of each sub-project have been duly presented to targeted communities. In-depth local consultations have been conducted including vulnerable groups and adopting a gender-sensitive approach with priority given to all directly affected stakeholders. The process of local consultations included further collection of specific data about the communities and their specific concerns and needs. In addition, climate risks and the barriers faced by the communities to adapt and address climate risk have been discussed (see example of the consultation guidelines in Zomba in **Annex 8**, document 2). And finally, the screening of the selected priority activities for environmental and social risk have been presented and commented by local communities (see example of the consultation presentation to the municipality in **Annex 8**, document 3, and the summary report of public consultation in Chokwe in **Annex 8**, document 4).

[60] The City Resilience Action Plans for Chokwe (Mozambique), Zomba (Malawi) and Morondava (Madagascar) were submitted as annexes at the concept note stage. The Resilience Framework for Action for Moroni (Comoros) is at final stages but is not yet finalised at the time of submission of this full project proposal.

In all local consultations it was ensured that the voices of vulnerable groups were captured and that there was appropriate gender representation. Vulnerable groups were specifically consult din a series of consultations in all target cities in September and October 2017 as well as in March 2018 with a view to collect more information on the revising the final selection of interventions by considering the specific needs of vulnerable groups.

Special attention had been paid to identify and involve groups with increased vulnerability to climate change. For example, fishermen of Tanambao neighbourhoods in Morondava have been very active during communities consultations. Their livelihood activity depends on the preservation of mangroves, which play a considerable role in coastal protection and mitigate chronic disturbance events accentuated by climate change. Through community consultations they have been informed about project design allowing them to raise comments and concerns, all of which have been addressed while finalising the project proposal.

The consultative process for each country took place following the consultative timeline as described below (see details of the consultations in **Annex 8**):

Table 27: Consultation timeline with Municipalities and Communities

	Consultation	Date	Participants	Results
Madagascar				
Municipal level	CityRAP prioritization workshop	15 March 2016	26 representatives of local stakeholders, including communities and municipal staff	Priority activities to build urban resilience in Morondava identified
	CityRAP validation workshop	15-17 March 2016	23 representatives of local stakeholders, including communities and municipal staff	Validation of the priority issues and activities identified in the City Resilience Action Plan of Morondava
	Assessment of project activities	6 December 2016	20 representatives from the Menabe Region, the Morondava municipality, the fokontanys (neighbourhoods) of Ampasy, Avaradrova, Sans fil and Tanambao, the technical services of the Ministry, the Morondava Women and Youth Association, journalists and the local development and risk management committees.	The participants approved the proposed activities to be carried out in the project.

	Preparation of the environmental and social risk screening sheets and grievance mechanisms	Between 23-26 October 2017	City council: Mayor, deputy mayor; focal points of the CityRAP process	City council fully supported the mission (with technical specialist made available for the full week). They propose that grievance mechanism should be done through radio, based on what already exist but should be improve. The question needs also to be raised during community consultations.
Community consultations	Local consultations to discuss proposed activities with targeted communities	Between 26-30 June 2017	Community members of Tanambao, Ampass, Avaradrova and Sans Fil	Preliminary activities selected
	Site visits and local consultations	Between 23-26 October 2017	Community members of Tanambao, Avaradrova and Sans Fil	Assessment conducted of the feasibility and social and environmental risks of the planned project activities.
	Technical environmental and social assessment	March 2018	Community members and focus group discussion with women with vulnerabilities and women associations	After presentation of project content, comments, concerns and recommendation have been raised by participants
Malawi				
Municipal level	CityRAP prioritization workshop	27 November 2015	Representatives from the local communities of Chambo, Likangala, Mbedza and Mtiya and municipal technicians	Priority activities to build urban resilience in Zomba identified
	CityRAP validation workshop	27 November 2015	Representatives from the Zomba City Council, municipal technicians and community representatives.	Validation of the priority issues and activities identified in the City Resilience Action Plan of Zomba
	Assessment of project activities	December 2016	Zomba City Council	Validation of proposed activities at the concept note stage
	Preparation of the environmental and social risk screening sheets and grievance mechanisms	25-29 September 2017	City council: Chief Executive, Chief Urban Planner; Chief Engineer; Community Mobilizer	Environmental and social risk screening sheets filled in; Agreement reached on final interventions subsequent to project site visits and analysis of all data at the end of the week; Understanding reached regarding grievance mechanism
Community consultations	Local consultations to discuss proposed activities	Between 12 - 16 June and 22 - 24 July 2017	Representatives from all wards participated including representation of women, youth, elderly and disabled	Preliminary activities selected

	Project site visits and local consultations	25-29 September 2017	Ward committee members and representatives in Likangala ward (two female and five male, out of which 2 youths); Vulnerable groups (Youth, Elderly, Disabled, HIV, orphans) and women in Chambo and Sadzi ward	Assessment conducted of the feasibility and social and environmental risks of the planned project activities based on the project presentation. Comments, concerns and recommendation have been raised by participants
Mozambique				
Municipal level	CityRAP prioritization workshop	1 September 2015	30 representatives of local stakeholders, including communities and municipal staff	Priority activities to build urban resilience in Chokwe identified
	CityRAP validation workshop	3 September 2015	40 participants of local stakeholders, including communities and municipal staff	Validation of the priority issues and activities identified in the City Resilience Action Plan of Chokwe
	Preparation of the environmental and social risk screening sheets and grievance mechanisms	30 October to 3 November 2017	Municipal Councillors of Urbanization, Environment and Social Sectors staff including municipal technicians from the urbanization sector	Work plan for field visits agreed to conduct the feasibility and social environment risks assessment
Community consultations	Local consultations to discuss proposed activities with targeted communities	10 and 14 July 2017	Community members of targeted neighbourhoods	Preliminary activities selected
	Project site visits and local consultations to validate the selected priority interventions	30 October to 3 November, 2017	More than 200 people attended community members; Separate sessions have been undertaken in the four target neighbourhoods with vulnerable groups, i.e. women, elderly as well as people with disabilities.	Assessment conducted of the feasibility and social and environmental risks of the planned project activities based on the project presentation. Comments, concerns and recommendation have been raised by participants

Union of Comoros				
Municipal level, including governmental counterparts	Preliminary stakeholder consultation	9 December 2016	Representatives from the Directorate General of Civil Security, the Karthala Volcanologic Observatory, the NGO Ulanga Ngazidja, the National Network for Women and Development, the Comorian Red Crescent Society, the Comoros University, the National Agency for Civil Aviation and Meteorology, the Association of Mayors	Activities discussed at the concept note stage
	CityRAP prioritization workshop	August 2017	Local stakeholders, including communities and municipal staff	Priority activities to build urban resilience in Moroni identified
	Preparation of the environmental and social risk screening sheets and grievance mechanisms	20-24 November 2017	City council: General Secretary, urban planner; chief of communities, local NGOs	Assessment conducted of the feasibility and social and environmental risks of the planned project activities.
Community consultations	Local consultations to discuss proposed activities with targeted communities	June 2017	Community members of targeted neighbourhoods	Preliminary activities discussed
	Project site visits and local consultations to validate the selected priority interventions	20 and 24 November. 2017	Community members and representatives of La Coulée, Madjadjou-Djomani, Oubodoni-Mboueni and Badjanani-Mtsangani; Among them, groups of elderly and women	Assessment conducted of the feasibility and social and environmental risks of the planned project activities
	Technical environmental and social assessment	March 2018	42 community members of La Coulée, including a women focus group (25 women)	After presentation of project content, comments, concerns and recommendation have been raised by consulted population

J. Justification for funding request

The proposed project components, outcomes and outputs fully align with national and local government/institutional priorities/gaps identified, with identified community and vulnerable groups needs and, as described in the project objectives, with the Adaptation Fund outcomes as stated in the Adaptation Fund Results Framework. This has resulted in the design of a comprehensive and integrated approach in which the different project components are inter-related and strengthen each other, and whose expected outputs and planned activities are meant to fill identified gaps in the South-East Africa sub-region in terms of urban climate adaptation.

In all the target countries, the need to adopt and implement urban climate adaptation policies and interventions have been widely recognized and commitments have been taken to strengthen coherence and integration between disaster risk reduction, climate change adaptation; but -given the limited capacity of the countries in term of technical expertise and financial resources- concrete urban interventions on climate resilience have hardly been planned and implemented.

The requested funding, therefore, will contribute to (i) piloting priority urban initiatives at local level (as per the 23 sub-projects) that will not only directly address adaptation needs of the most vulnerable in the four cities but also boost other similar initiatives in urban areas in the region; (ii) fostering knowledge and the establishment of institutional and legal framework for climate resilience at urban level (iii) mobilizing additional resources at national and local level (iv) promoting the discussion - among the SADC Countries - on urban resilience and the sharing of concrete good practices that can be easily replicated in other urban areas and Countries. It will indeed support SADC in implementing its mandate of regional integration and coordination and in advancing the development of the SADC regional resilience strategy (currently under development) for the urban context.

Furthermore, in line with the unique goal of the Fund, the funding will support Member States to tackle disaster risk reduction and climate change adaption when setting the Sustainable Development Goals (SDGs), particularly in light of an insufficient focus on risk reduction and resilience in the original Millennium Development Goals (MDGs).

The project targets four countries over four years for a total project cost of almost **US$14 million.** Specifically, four cities have been targeted for climate adaptation planning and will benefit from the implementation of sub-projects under Component 1. This physical adaptation component will be allocated with over half of the direct project costs, directly benefitting the target communities. The impact that the AF funding will have with this 23 sub-projects is detailed in the sub-project fiches in Annex 5. Funding allocation for 'softer' components is required:

- Under Component 1, to prepare for and support the effective, appropriate and sustainable execution of the 23 sub-projects, including local trainings for long-term capacities in maintaining and managing adequately the interventions
- Under Component 2, to institutionalise knowledge and produce adequate guidelines, policies, strategies and legislation to ensure priority on climate change adaptation in urban areas and mobilize resources;
- Under Component 3, to ensure inter-country/city knowledge exchange and to build the basis for dissemination, replication and scaling-up in the southern Africa region, thus influencing existing SADC Regional resilience initiative to strengthen the focus on the urban dimension.

The project proposal makes detailed observations in other sections with regard to the great project potential in terms of economic, social and environmental benefits of the physical interventions, the underlying climate change hazards and resilience building needs for each target city, as well as cost effectiveness and sustainability aspects, which are not repeated in this section.
The table below provides a justification for funding requested, focusing on the full cost of adaptation reasoning, by showing the impact of the requested AF financing compared to no funding (baseline) related to expected project outcomes.

Table 28: Overview of impact of requested AF financing compared to no funding (baseline) related to expected project outcomes

Outcomes under project Components	Baseline (without AF)	Additional (with AF)	Alternative adaptation scenario
Under project Component 1: Municipal staff, communities and local stakeholders have successfully implemented priority sub-projects for increasing the climate resilience of their city and have acquired the required capacity to manage and maintain the realised investments	Municipal staff, communities and local stakeholders have limited understanding of climate change induced risks affecting their city and have not identified concrete strategies for adaptation planning and design. They have limited understanding on management and maintenance needs of climate change related interventions. As a result, target cities and vulnerable communities are not implementing strategic physical and ecosystem interventions focused on enhancing climate change resilience, leading to an increase in future climatic threats (e.g. floods, cyclones, sea level rise/coastal erosion, drought, etc.) victims, destruction of property, infrastructure and assets, health risks, crops failure, loss of livelihoods, etc.	Target cities have implemented strategic priority investments and activities for enhancing their climate change resilience, especially targeting the most vulnerable urban areas. The project outcomes benefit the poor and vulnerable population by protecting their lives, property, assets and livelihoods from the impact of climatic threats, and by enhancing their living conditions, especially in terms of access to basic services and resilient infrastructure. Municipal staff, communities and local stakeholders in each target city have increased understanding of their vulnerabilities and how to respond to their adaptation needs. The required knowledge and skills to effectively and sustainably implement these priority interventions has been ensured.	Alternatively, interventions could focus solely on capacity building and awareness-raising to adapt to climate change. However, the effects of climate change in these cities are predicted to be so severe that, considering the low financial capacity, the lack of skills and the poor living conditions, physical interventions are absolutely needed to protect lives, property, assets, infrastructure and livelihoods. Larger scale interventions (e.g. building protecting infrastructure, or large relocation operations of the population at risk) could also be envisaged, but the costs are prohibitive and they would not respond to the needs of the poor and most vulnerable.
Under project Component 2: National governments have created enabling conditions for scaling up and replicating the same climate resilience approach in other urban settlements	National institutions and local governments in the target countries have limited knowledge, capacity and practice for planning and institutionalising urban climate resilience building. With lack of technical knowledge, guidelines, policies and strategies, the level of vulnerability (and subsequently of the risk) of fast-growing urban areas to climatic threats would inevitably increase dramatically.	Concerned local government authorities and the majority of the national institutions mandated to deal with climate change adaptation have increased their knowledge/capacity to enhance urban climate adaptation. Guidelines, rules, policies and strategies were defined to prioritise and institutionalise an urban resilience building agenda at the country level, enabling replication and scaling up of best practices.	Without proper awareness of the level of climatic risks to which the growing urban population in the target countries is being exposed to, the needed guidelines, rules, policies and strategies in place to address these risks, and without proper and enhanced institutional capacity at the national and city levels, good local practices cannot be replicated and scaled up to benefit other urban settlements of these countries.
Under project Component 3: Local and national governments of the 4 countries have learned from each other good urban climate adaptation practices and are	Throughout the southern Africa region, especially the eastern part that is exposed to cyclones generated in the Indian Ocean, common transboundary climatic hazards are badly affecting cities and towns	Inter-country and city-to-city knowledge exchange on best practices and sharing of local experiences have been facilitated at the sub-regional level thanks to a strengthened DiMSUR and strong SADC engagement, thus establishing the conditions for	A weak regional approach would frustrate the possibility for the target countries/cities to learn from each other thanks to the innovative local initiatives for urban adaptation to common climatic threats that were implemented at the local

better prepared to face common transboundary climate-related natural hazards	located either in the coastal areas or inland. A general lack of strategies, capacity and practice in the region is observed for planning towards urban resilience and sharing of best approaches, tools and practices to respond to common climatic threats.	designing and implementing concrete cross-fertilisation activities and enhanced inter-country cooperation programmes for addressing urban climate adaptation priorities. This will enable the replication and scaling up of the adopted project approach in the four target countries and beyond, laying the foundations for reaching out to other southern African countries thanks to improved regional policies and strategies and follow-up regional and national initiatives with an urban climate adaptation focus.	level. In addition, without a reinforced DiMSUR and a strong SADC role the possibility to improve regional policies and strategies, by integrating the recommendations derived from the project lessons learned, will be missed. Finally, the potential for replication and scaling up to other southern African countries would also be reduced if regional exchange and dissemination mechanisms are not in place.

K. Sustainability of project outcomes

The sustainability of the project is inherently embedded in its design. The project is following the principle of sustainability mainly through the aspects of capacity building, bottom-up and participatory approach, knowledge sharing, national and regional replication and scaling up.

As mentioned in Part I under Project Background and Context, local governments in the target countries lack the financial and institutional capacity to effectively plan for adapting to climate change hazards. The project's capacity building efforts will strengthen the municipalities and communities' planning and management mechanisms to reduce their fragility in the face of climatic threats, hence have *'per se'* a sustainable influence on the future urban resilience of the target cities. Involvement of the respective countries' local and national governments and academic/training institutions in the implementation of Component 2 is thereby also an important element towards the sustainability of the project's outcomes. Importantly, under Component 1, local capacity will also be developed to ensure the management/maintenance of the sub-projects' outcomes in the longer term.

As outlined in Part I of the proposal and outlined in more detail in Part II, Section A, project activities under Component 2 will occur at the national level to create the conditions for scaling up and replicating the CityRAP approach in other urban settlements. This is a critical project component which will ensure greater sustainability and a lasting impact of the project. The CityRAP Tool will be improved to make it more adapted to the national/local contexts[61] and proposed activities are designed for wide dissemination and enabling replication and autonomous implementation of the tool by other cities beyond financial or technical support from UN-Habitat or the executing entities of this project. To that end, partnerships will be established with qualified academic entities in each country, in the region and beyond for carrying out specific training

[61] Several local governments and other government organisations have already expressed interest in adopting the CityRAP as the main tool to guide resilience building and adaptation at urban level in the target countriess. In Mozambique, for example, CityRAP activities have already involved 14 different cities (Angoche, Nampula, Dondo, Chiure, Montepuez, Alto Molocue, Maganja da Costa, Cuamba, Metangula, Malema, Ribabue, Vilankulo, Mocuba and Chokwe) and all have requested further access and support to continue applying the tool, while the Ministry of Land, Environment and Rural Development (MITADER) has demonstrated interest in the tool in several occasions.

modules at the bachelor or master degree level benefiting the four target countries. In addition, the development of online tutorials of the tool will ensure its dissemination in the target countries and beyond.

At the national level, guidelines, policies, legislation or strategies will be developed or adapted, and knowledge and best practices will be shared widely, with the aim to enhance urban resilience in each country. These will be mainstreamed into the national urban resilience building efforts by serving as basis for training workshops for government and municipal officials for replication of the tool deployment in other cities/towns in the target countries. Existing national institutions and networks (e.g. associations of municipalities) will be involved in organising and conducting the training workshops, and partnerships/synergies established with on-going initiatives at the national level. All this will ensure a sustainable project implementation approach.

Furthermore, the project is designed to achieve enhanced knowledge, communication and information exchange between cities and national governments to strengthen urban climate resilience practices under project Component 3. A multiplier effect and cross fertilization through learning exchanges at the regional level is thus embedded in the project's design that caters for sustainable future exchange on urban climate resilience tools, information, strategies and best practices. Hereby the sustainability is directly linked to the institutional level and the involvement of the SADC DRR Unit and DiMSUR as established organisations.

Lastly, the physical interventions and capacity building components of the project will lead to long term economic, social and environmental benefits as outlined in Sections C and D in Part II of this proposal.

The rationale of arrangements for sustainability and maintenance of the realised physical/hard investments in the four target cities under Component 1 are detailed in the 23 sub-project fiches presented previously.

The table below summarizes the main strategies and arrangements for sustainability for each of the six main areas of intervention, which will be further detailed out during the first phase of project implementation. The targeted communities, municipalities and local stakeholders (NGOs, sub-contractors, etc.) will be further consulted and agreements established to ensure economic, social and environmental sustainability, with maximum benefits for the most vulnerable groups. The project team will work hard to enhance the establishment of sound partnerships between municipality and local community, based on the mutual recognition of each one's role and responsibilities. These trustful relationships, and their formalization into formal agreements and/or the setting-up/reinforcement of local committees and/or the finalization of community by-laws, will be accompanied as they will constitute the basis for the sustainability of the planned infrastructural investments, beyond the duration of the project.

Table 29: Overview of sustainability efforts for each main intervention area

Main sectors of intervention	Sub-projects	Overall sustainability / Maintenance efforts *(for more specific measures see Sub-Project Fiches in Annex 5)*
Improvement of drainage conditions	Enhancing the drainage capacity in the city centre (5.1.7 Morondava)	*Social sustainability:* Campaigns and trainings will be carried out to raise awareness about the relation between waste dumping and flooding and diseases. In some contexts, communities will also be involved in the construction works as paid labour, so to increase ownership. Already identified community leaders will play a key role for monitoring the drainage efficiency and mobilising the communities for carrying out the maintenance operations. In addition, when needed, capacity building of local master builders will be ensured so to enable them to maintain the resilient infrastructure. *Institutional sustainability:* Local committees resulting from the collaboration between the community and the municipality will be set up to monitor garbage disposal and the application of sanitation and hygiene codes, and be trained in cleaning the drainage systems. Committees will be supported to draft community by-laws to ensure, inter alia, that drainage is protected from indiscriminate dumping and damage and is cleared especially before the rains. *Economic sustainability:* The municipalities will be responsible for including funds for maintenance in their annual in budget once the project infrastructure is handed over to the city/ies. Some, like the Municipality of Zomba, already committed resources to this kind of activities in their provisional budget for next year. Environmental sustainability: The improvement of drainage conditions can involve both “hard” infrastructures and an Ecosystem-based approach. Thus, green and blue areas can contribute to the proper working of the drainage system and lower the load of pressure in case of heavy rains. The two approaches have no point of conflicts and if though together (see the “Rehabilitation of existing ecosystems and reinforcement of sustainable use of natural resources” sector of intervention) can be more effective. Municipal offices in charge of ecosystems and green areas will be involved in the process with this purpose.
	Rehabilitation of existing drainage channels and construction of new drainage channels (5.2.3 Zomba)	
	Improving the overall drainage capacity of the city (5.3.1 Chokwe)	
	Reinforcing the drainage capacity in La Coulée neighbourhood (5.4.1 Moroni)	
Establishment of early warning system	Establishment of a city-wide early warning system for floods (5.1.3 Morondova)	*Social sustainability:* A training of municipal technicians for using and maintaining early warning equipment (e.g. hydrometric and pluviometric material, weather

	Establishment of a city-wide early warning system for floods (5.2.1 Zomba)	station, water gauges for flooding early warning) will be delivered and awareness-campaigns organised. *Institutional sustainability:* These activities will be integrated in the contingency plan of each city. The city council will assure implementation, monitoring and evaluation of the same. In particular, for sustaining the improved early warning system, the city council will work in coordination with community leaders and concerned local stakeholders. Relevant Directorate Generals of concerned Ministries will also be involved in the design, training delivery and maintenance of the EWS.
	Strengthening early warning for floods at community level (5.3.4 Chokwe)	
	Establish a flood early warning system in La Coulée neighbourhood (5.4.4 Moroni)	
Improvement of solid waste management	Improving solid waste management in the city centre (5.1.8 Morondova)	*Social sustainability:* The population will be mobilised and sensitised through awareness raising campaigns on waste management and separation. The capacity building/training to the communities will empower people, especially women, by providing the necessary skills, knowledge and awareness that will ensure the ownership and – therefore – the continuity of the services rendered. Importantly, to avoid tensions due to location of garbage treating centre, areas have already been pre-selected at appropriate distances with participation of the local population. *Institutional sustainability:* The municipalities will be responsible for collecting and allocating funds for maintaining the waste treatment centre through their annual budgets. Public-private partnerships between municipalities and micro-entrepreneurs will also be encouraged to for waste management. *Economic sustainability:* The municipalities will be responsible for including funds for sustaining operations in their annual in budget once the project infrastructure is handed over to the city/ies. Environmental sustainability: It is direct interest of the community and of all the authorities in charge of the environment to make sure a proper SWM is carried out. Poor SWM can affect the quality of water and pollute both soil and air, with heavy impacts on health and economies. On the contrary, recycling activities and properly designed collection point can ensure healthy environments. There are no negative effects in the environment by improving the SWM and, on the contrary, interest of the department in charge of ecosystems and green areas to make it happen.
	Improving solid waste management (5.2.4 Zomba)	
	Improving solid waste management (5.3.3 Chokwe)	
	Improving solid waste management in La Coulée and Médina neighbourhoods (5.4.3 Moroni)	

Construction of multi-safe havens	Construction of a resilient and multi-purpose safe-haven (5.1.4 Morondova)	*Social sustainability:* Communities will be continuously involved in the construction of the evacuation centres and in trainings on resilient houses construction to raise awareness on the same. *Institutional and Economic sustainability:* The evacuation centres will become critical facilities serving different tasks: training centres, social centres, etc. For this reason, the Municipalities are willing to sustain the maintenance and management-related costs of the Centres. The communities and local committees will also work closely with the Municipalities to ensure the Centres are well maintained and activities are continuously occurring, even beyond the project's end. *Environmental sustainability:* In case the safe heavens would include some open spaces, these spaces can play a double role by being also designed to enhance climate adaptation (by mitigating run-off, regulating the climate, etc.) during the emergencies and by mitigating climate-related hazards over time. Proper design of these open spaces will imply the intervention of universities or environmental experts.
	Construction of multi-purpose evacuation centres (5.2.2 Zomba)	
	Construction of safe-havens (5.3.2 Chokwe)	
Rehabilitation/protection of critical ecosystems and sustainable use of natural resources	Rehabilitation of 180 ha of mangroves (5.5.1 Morondova)	*Social sustainability:* Through coordination and cooperation between the line Ministry/ies, the cities and communities the interventions will be sustained. The use of local labour will result in ownership of the intervention. The population will be mobilised and sensitised through awareness raising campaigns and to introduce a shift towards more sustainable practices for what concerns land and natural resources' use. Specific trainings will also be organized and partnerships (or establishment of) associations promoted. Key community leaders will be involved as their involvement, support and example is crucial to support this change. The drafting of community by-laws regarding forest management will also be used as a tool to enforce the change. *Institutional sustainability:* Laws in the target countries and commitment taken by governments (INDCs, NAPs, etc. see Part II -Section E for more information) are highly favourable to the rehabilitation of ecosystems. In some countries, traditional customary rules will be used to monitor on practices such as reforestation (like the 'dina' in Madagascar, a local agreement between the city traditional leaders and community representatives based on a set of rules and fines for the breach of the same). *Economic sustainability:*
	Urban greening interventions in high risk areas (5.1.2 Morondova)	
	Sustainable urban forest management (5.2.7 Zomba)	
	River-focused interventions to prevent erosion and flooding (5.2.5 Zomba)	
	Establishing community-managed rainwater harvesting systems in La Coulée neighbourhood (5.4.2 Moroni)	

		The municipality will provide maintenance of green spaces or enter into public-private partnerships with a private operator for such a purpose. *Environmental sustainability:* The cooperation with academia, universities, research institutes (i.e. the Forest Research Institute and Malawi) and communities to rely on traditional knowledge will ensure selecting appropriate species for all what concern reforestation/creation of green spaces. Additionally, ecosystem restoration represents a win-win, no regret and multi-purpose solution. This implies sustainability over time of the interventions that will be undertaken and a long-term interest on their positive impacts.
Improvement of urban mobility	Construct a flood-proof elevated road (920 m) with improved drainage capacity (5.1.5 Morondava) Reconstruction of 3 bridges connecting different neighbourhoods in a resilient manner (5.1.6 Morondava) Construction and rehabilitation of bridges and dams on Likangala River (5.2.6 Zomba)	*Social sustainability:* A communication strategy will be developed around the new infrastructures, for raising awareness on the importance of the new infrastructures (and their location) in case of a climate change related event. *Economic sustainability:* The municipalities will be responsible for including funds for maintenance in their annual in budget. Similar to what is planned for maintaining the improved drainage system, in some contexts, contractual agreements will be signed with communities to be involved as paid labour, so to increase at the same time ownership over the new infrastructure.

L. Environmental and social impacts and risks

The proposed project fully aligns with the Adaptation Fund's Environmental and Social Policy (ESP) and its 15 safeguard areas and the Adaptation Fund's Gender Policy (GP). To align with these policies and related guidelines, this section provides a brief summary of the risks and impacts assessment outcomes, which are shown in detail in annex 7. Section C, Part III, further describes the essence of the environmental and social management plan, while Annex 5 provides detailed information on possible risks identified, their impacts and proposed measures to avoid or reduce risks per sub-project.

The project activities/interventions scope has been designed to minimize potential risks for all activities/interventions by selecting numerous, small scale and very localized interventions, proposed and managed by communities where possible, who have a stake in avoiding environmental and social impacts. This means that the potential for direct impacts is small and localized, that there can be few indirect impacts, and that transboundary impacts are highly unlikely. Given this, cumulative impacts are also unlikely.

Al activities / interventions have been screened against the 15 AF principles and potential risks identified, impacts assessed, and risks avoidance/mitigation measures proposed, where needed (as shown in detail in **Annex 7**). Because of the nature of some activities/interventions under output 1.2., which entail physical interventions, the entire project is regarded as a medium risk

(Category B) project. Therefore, an ESMP has been developed (which is included in **Annex 7**).

Table 30: Overview of potential environmental and social impacts and risks measures to prevent or mitigate these.

Checklist of environmental and social principles	No further assessment required for ESP compliance during project	Further assessment and / or management required for ESP compliance during project implementation
1. Compliance with the Law	No further assessment required: - Relevant rules, regulations and standards have been identified for all activities and there are no obstacles to comply to these as shown in Section F, Part II - The project designed the interventions as such that EIA are not required by national law. This has been confirmed by government authorities.	
2. Access and Equity	No further assessment required: - This risks was identified for most activities during project preparation phase because, although the project preparation process has been fully participatory, there can still be a risk of non-equal participation / representation and benefits to activities during project implementation activities - A general risk reduction measure has been proposed in annex as well as risks avoidance measures for all activities	Further management and monitoring required for implementation of risks avoidance measures as discussed in **Annex 7**
3. Marginalised and Vulnerable Groups	No further assessment required: - This risks was identified for most activities during project preparation phase because, although the project preparation process has been fully participatory, there can still be a risk of non-equal participation / representation of and benefits to certain groups to activities during project implementation activities - Vulnerable groups have been identified in target areas and possible impacts quantified as shown in **Annexes 6 and 7**. - A general risk reduction measure has been proposed in **Annex 7** as well as risks avoidance measures for all activities	Further management and monitoring required for implementation of risks avoidance measures as discussed in **Annex 7**
4. Human Rights	No further assessment required: - All possible human rights issues have been analysed in a designated human rights annex (see **Annex 10**) - For all activities, no risks have been identified. All physical interventions are on public land and land use is not affected. No elements of the potential human rights risks have been triggered (as shown in **Annex 7**) - A general risk reduction measure has been proposed in **Annex 7**	

5. *Gender Equity and Women's Empowerment*	No further assessment required: - This risks was identified for most activities during project preparation phase because, although the project preparation process has been fully participatory, there can still be a risk of non-equal participation / representation of and benefits to women to activities during project implementation activities - A gender analysis has been conducted and compiled in **Annex 6** - A general risk reduction measure has been proposed in **Annex 7** as well as risks avoidance measures for all activities	Further management and monitoring required for implementation of risks avoidance measures as discussed in **Annex 7**
6. *Core Labour Rights*	No further assessment required: - This risks was identified for all activities where contracting is required - ILO reports have been studied for all countries; although there a no major issues, awareness of ILO standards is low in most communities and most work is done informally - A general risk reduction measure has been proposed in **Annex 7** as well as risks avoidance measures activities where contracting is required	Further management and monitoring required for implementation of risks avoidance measures as discussed in **Annex 7**
7. *Indigenous Peoples*	No further assessment required: - No indigenous groups were identified in target areas	
8. *Involuntary Resettlement*	No further assessment required: - All possible relevant human rights issues have been analysed in a designated human rights annex (see **Annex 10**) For all activities, no risks have been identified. All physical interventions are on public land and land use is not affected. No elements of the potential involuntary resettlements risks have been triggered, including economic displacement (as shown in **Annex 7**) A general risk reduction measure has been proposed in **Annex 7**	
9. *Protection of Natural Habitats*	No further assessment required: - This risks was identified for solid waste management interventions during project preparation phase because, if integrity of ecosystems is not ensured by the design of the initiatives, flora and fauna might be negatively impacted, mainly through pollution of soil and water. Risk mitigation measure have been proposed for solid waste management intervention in sub-project fiches and annex 7	Further management and monitoring required for implementation of risks avoidance measures as discussed in **Annex 7**
10. *Conservation of Biological Diversity*	No further assessment required: - This risks was identified for rehabilitation / protection of existing ecosystems interventions during project preparation phase because small-scale mangrove replanting activities have been conducted by the ministry of fishing in Madagascar, but these did not grow well. - Risk mitigation measure have been proposed for rehabilitation / protection of existing ecosystems interventions in sub-project fiches and **Annex 7**	Further management and monitoring required for implementation of risks avoidance measures as discussed in **Annex 7**

11. Climate Change	No further assessment required: - This risks was not identified for intervention because there are no activities that produce large quantities of greenhouse gas emissions	
12.. Pollution Prevention and Resource Efficiency	No further assessment required: - This risk was identified for improvement of drainage conditions, solid waste management and ecosystem interventions during project preparation phase because large quantities of materials are required and pesticides may be used. - Risk mitigation measure have been proposed to purchase materials in a sustainable way and to only use pesticides 'allowed' by international standards (see **Annex 7**)	Further management and monitoring required for implementation of risks avoidance measures as discussed in **Annex 7**
13 Public Health	No further assessment required: - This risks was identified for all interventions that may pose a safety risks due to construction works. - Risk mitigation measure have been proposed to comply to international safety standards (see **Annex 7**)	Further management and monitoring required for implementation of risks avoidance measures as discussed in **Annex 7**
14.Physical and Cultural Heritage	No further assessment required: - This risks was not identified for interventions because no heritage sites were identified in target areas	
15. Lands and Soil Conservation	No further assessment required: - This risks was not identified for interventions because valuable lands and soils will not be affected; only urban lands planned for construction or already used for other purposes (see **Annex 7**)	

PART III: IMPLEMENTATION ARRANGEMENTS

A. Arrangements for project management

As there are no accredited National Implementing Entities (NIEs) to the Adaptation Fund (AF) in the target countries, the project will be implemented by the United Nations Human Settlements Programme (UN-Habitat), which is accredited as AF Multilateral Implementing Entity. In terms of project management structure, there will be three levels of implementation, i.e. regional, national and local (city level) with different Executing Entities, as shown in the table below.

Table 31: Project management structure

Implementing and Executing Entities	Level of implementation	Project role and responsibilities

Multilateral Implementing Entity: UN-Habitat	Regional National Local/city level	Overall project supervision, oversight, support to implementation, monitoring and evaluation, and fund distribution to Executing Agencies
Regional Executing Entities: SADC DRR Unit / DiMSUR	Regional National	Partial execution of Component 2 (Output 2.2) and full execution of Component 3
National Executing Entities: In Madagascar: Ministry of Environment, Ecology, Sea and Forestry / National Climate Change Coordination Bureau (BNCCC) In Malawi: Office of the Vice President / Department of Disaster Management Affairs (DoDMA) In Mozambique: Ministry of Land, Environment and Rural Development (MITADER) In Comoros: Ministry of Interior, Information and Decentralisation / General Directorate for Civil Security (DGSC)	National	Partial execution of Component 2 (Expected Outputs 2.1)
Local Executing Entity: Oxfam International	Local/city level	Full execution of Component 1 through collaboration with municipalities, communities, local NGOs and sub-contractors

(ii) Project governance

- Project Supervision Team (PST)

UN-Habitat, as MIE for this project, will recruit and establish a Project Supervision Team (PST) to be led by the Senior Human Settlements Officer (SHSO), Focal Point for Climate Change, Risk Reduction and Resilience within the UN-Habitat Regional Office for Africa. As part of the PST, the SHSO will be supported by a dedicated Project Manager (PM), an Administrative, Financial and Knowledge Management Assistant and four (one per country) National Project Managers (NPMs). The PST will have the following responsibilities:

(i) Facilitate the coordination, supervision, oversight, monitoring and evaluation of the overall project implementation at the different (regional, national and local/city) levels, including supervision, oversight and backstopping of the various Executing Entities;

(ii) Produce progress reports every 6 months and financial reports every 12 months to be submitted to the donor (Adaptation Fund - see also Section D, Part III, on reporting requirements);

(iii) Ensure budgeting and financial management, with the support of UN-Habitat administration;

(iv) Prepare and manage all contractual agreements with the different Executing Entities listed in Table 31, as well as for national/international consultants, including terms of reference, work plans, budgets and payment schedules, and perform payments upon progress;

(v) Carry out regular project monitoring at all levels (regional, national and local/city level), ensuring compliance and quality control in accordance with UN-Habitat and AF standards and requirements;

(vi) Organise the mid-term and the independent terminal project evaluations;

(vii) Coordinate overall knowledge management and project communication;

(viii) Facilitate inter-country communication and cooperation for positive projects outcomes and beyond, when and where possible

(ix) Management responsibility of the ESMP (see **Annex 7**) will be under the National Project Managers. They will manage and monitor the progress of all project activities, including measures to comply with the ESP, risks mitigation measures and GP. As part of the Project Supervision Team, the Project Manager will have oversight / final compliance responsibility.

- Project Steering Committee (PSC)

The Project Steering Committee (PSC) is the overall decision-making body in terms of project coordination and orientations. It will meet once a year at the regional level and will have the following responsibilities:

(i) Review, discuss and provide substantive comments and main recommendations to the annual narrative reports prepared and presented by the Executing Entities during the annual PSC meetings;

(ii) Review, discuss and approve the annual work plans submitted by the Executing Entities;

(iii) Define the main strategies and provide overall policy guidance, recommendations and orientations for project implementation and coordination throughout the implementation period.

In terms of membership, the PSC will basically be composed of the same members of the DiMSUR Executive Board[62] (DiMSUR being the umbrella institution of the project), plus representatives of the four target cities (NB: efforts will be made to ensure a gender balance) namely:

- *Chair:* DiMSUR Executive Board Chairperson[63]
- *Secretariat:* DiMSUR Secretariat
- PM / UN-Habitat
- SADC DRR Unit
- Government representatives of the four project target countries, dealing with disaster risk reduction and/or climate change adaptation and/or Chairs of the National Project Coordination Teams (see below the role of these Teams)
- Municipal representatives of the four project target cities, Chairs of the City Project Teams (see below the role of these Teams)
- Oxfam International, in representation of the civil society
- North-West University (South Africa) and Antananarivo University (Madagascar), in representation of the academic sector

Importantly, it is at the level of the PSC that coordination takes place between the participating countries. That's where the high level project management decisions are undertaken. The annual PSC meetings will be organised back to back to the regional workshops where, in addition to decision-making, the countries' representatives will be able to interact also from a substantive and information sharing perspective, thus learning from each other and identifying possibilities

[62] Please refer to the DiMSUR MoU and Charter in Annex 2a.

63 According to the DiMSUR Charter the chairmanship of the Executive Board is ensured by the Government Representative of one of the four countries targeted by the project, and is rotational on an annual basis.

for cross-fertilisation of best practices, hence enhancing inter-country cooperation. Again, this is the added value of the regional approach, as already highlighted in Section A, Part II.

- National Project Coordination Teams (NPCTs)

In each target country a National Project Coordination Team (NPCT) will be set up, which will meet twice a year to discuss the status of project implementation at the national level and provide guidance and recommendations for the next 6 months, including adaptive management decisions for all project activities occurring within the country. The National DiMSUR Focal Points will act as the Secretariat of the NPCT. The NPCTs will report to the PSC, especially by attending the PSC annual meetings. The NPCT will be gender-balanced and composed of the following members:

- *Chair:* Designated Authority to the Adaptation Fund, or a National Government representative specifically appointed for this purpose
- *Secretariat:* DiMSUR National Focal Point
- NPM or UN-Habitat representative
- Representatives of the National Executing Entities, i.e. concerned government officials for Component 2, and Oxfam International for Component 1
- Other government representatives directly concerned by the project
- Municipality representative(s) of the target city (maximum 2), including the Chair of the City Project Team
- Community leaders (maximum 4)
- Representatives from the academic sector

- National Project Managers (NPMs)

At both the national and local/city levels, the four National Project Managers (NPMs), who are part of the PST, will play a very critical role during project implementation. In particular, they will:

(i) Support the NPCTs in preparing their annual work plans for project implementation at the country level, for review of the Project Manager (PM), which will then have to be submitted to the PSC for endorsement at least two weeks prior the annual PSC meeting;

(ii) Support the PM in drafting terms of reference for national or international consultancies to provide specific/punctual technical assistance and training & capacity building to facilitate project implementation, as needed;

(iii) Supervise the work of the different National Executing Entities at the country level, as per the signed contractual agreements with UN-Habitat, concerning project Components 1 and 2; they will ensure quality control of all outputs being produced at the national/local level;

(iv) Monitor the progress of all project activities at the national/local level, as per the requirements of the ESMP (see Annex 7), and provide timely advice and/or support to overcome any difficulties, including proposing strategies to recover from eventual delays in implementation;

(v) Represent the UN-Habitat PST at the country level, hence ensuring the regular liaison with the concerned national/municipal governments, as well as coordination with other interested national/local partners/stakeholders, the United Nations, development partners, potential donors, the academic sector, among others;

(vi) Prepare the 6-month progress reports at the country level to be submitted to the PM for review

and integration in the overall 6-month project reports (see also Section D, Part III, on reporting requirements);

(vii) Liaise by email, Skype or phone with the PM on a regular/weekly basis for updating on project progress and request for guidance, as needed.

For carrying out all these tasks, the NPMs will need proper office facilities and equipment, have access to a vehicle to conduct regular field visits, as well as some administrative/logistic/technical assistance at the country level. In addition, it has to be noted that while the NPMs will be based in the countries' respective capital cities (especially for purposes of coordination with central government authorities, national/international partners, etc.), in the cases of Madagascar, Malawi and Mozambique, the project targeted cities are secondary/intermediate cities that require few hours' drive to be reached. At the city level, the day to day project manager will be hired by Oxfam International, hereafter referred to as the City Project Manager (CPM).

- City Project Teams (CPTs)

Considering that the greatest share of the project budget is allocated to Component 1 whose activities will take place in the four target cities, it is essential to establish proper coordination and implementation mechanisms at the city/local level. For this purpose, a gender-balanced City Project Team (CPT) will be established in each target city, which will meet quarterly or whenever judged necessary. Adaptive management decisions regarding city level activities (representing the bulk of the project's funding) will be taken in this forum.

The CPT is composed of the following members:

- *Chair:* City Mayor of his/her representative
- *Secretariat:* DiMSUR National Focal Point
- NPM or UN-Habitat representative
- Central/Sub-National Government entities directly concerned by the project
- Community leaders (one per target neighbourhood/ward)
- The City Project Manager (CPM), or Oxfam International representative
- Representatives of Local NGOs/sub-contractor working under contract with Oxfam International for implementing specific activities under Component 1

The CPT will be the decision-making organ at the city level. CPT meetings can be called at any point in time whenever an important issue related to the project has to be discussed and an executive decision needs to be taken. The DiMSUR National Focal Point, as the Secretariat of the CPT, will facilitate discussions as needed and be the mediator whenever conflicts arise between CPT members. The DiMSUR National Focal Point will maintain a neutral position. The CPT reports to the NPCT by participating to the NPCT biannual meetings or through the Secretariat.

- City Project Managers (CPMs)

As mentioned, Oxfam International being the main Executing Entity in each of the four target cities, it will be responsible for hiring a City Project Manager (CPM) for each target city. The CPMs will work in close coordination with the four concerned municipalities, and support local implementing partners (e.g. NGOs/sub-contractors) as required. In particular, the CPMs, in coordination with the other local stakeholders, will consult regularly with the community leaders/representatives in the different areas of interventions of the city, by organising

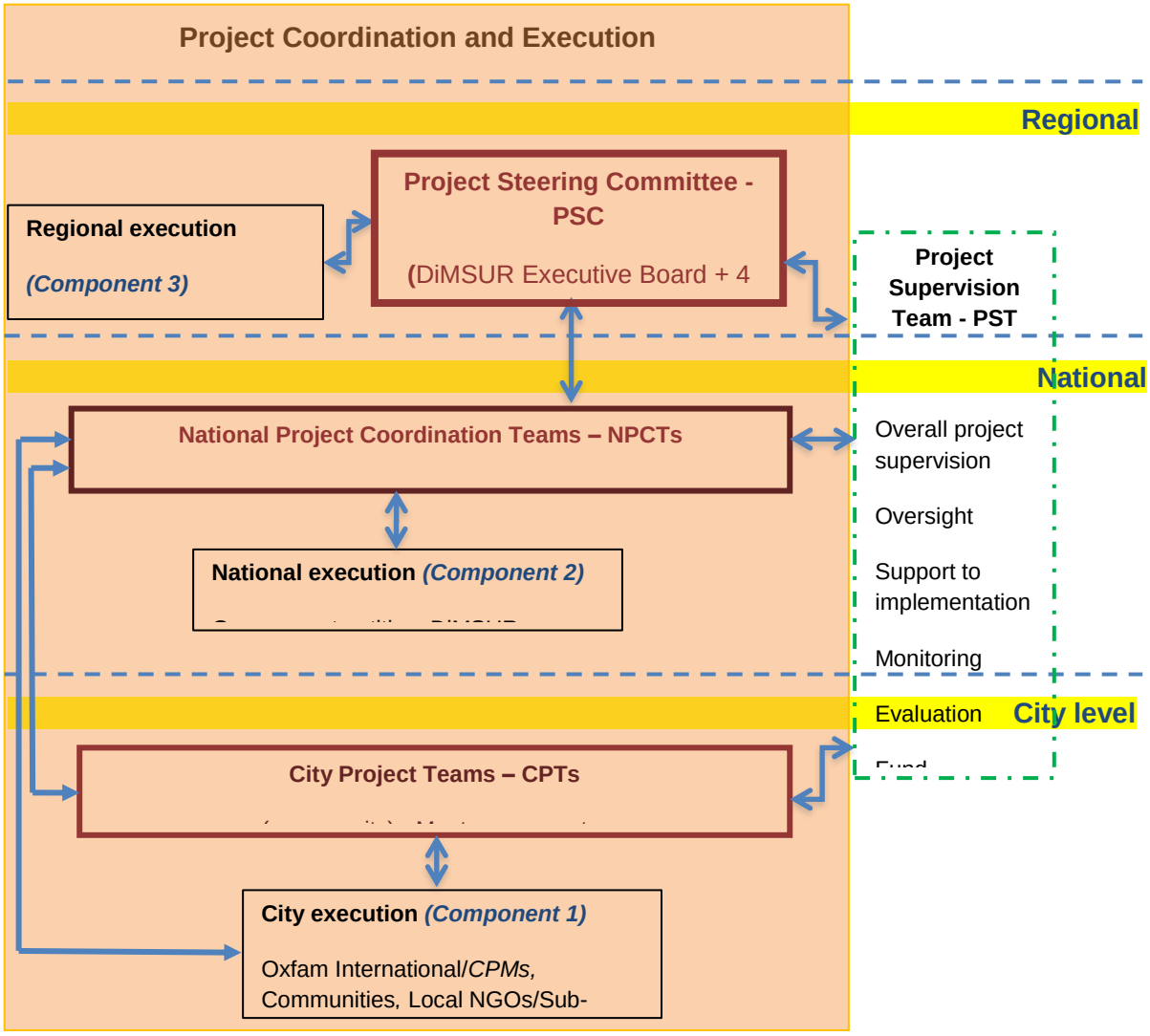
neighbourhood-level consultations as required. The CPMs will have to ensure a transparent, consensual and participatory decision-making process throughout project implementation.

The CPMs will support/oversee detailed participatory design of sub-projects (as required) to be implemented under Component 1. They will then be responsible for monitoring and supervising the implementation of the sub-project activities on a daily/weekly basis (as required), in close coordination with and the support of the NPMs, making sure that they comply with the ESMP, national standards/legislation and local by-laws, as applicable.

Oxfam International, under the leadership of the CMPs, will be responsible for carrying out in full Component 1.

The project organogram is shown in figure 58.

Figure 58: Project organogram



(iii) Legal and financial arrangements

UN-Habitat, as MIE, has the overall responsibility for preparing contractual agreements with the identified Regional/National Executing Entities, within the rules and regulations of the United Nations Secretariat.

At the regional level, as already mentioned, an Agreement of Cooperation (AoC)[64] will be prepared with the SADC DRR Unit for fully executing activities under Component 3, in particular by supporting the full operationalisation of DiMSUR.

At the national level, the National Government institutions mentioned in Table 31 (which may choose to work with other concerned government partners, such as INGC in Mozambique, or BNGRC in Madagascar) will be made responsible through separate Agreements of Cooperation (AoCs) for executing the planned activities under *Expected Output 2.1*, Component 2. *Expected Output 2.2*, Component 2, will be executed by DiMSUR with technical assistance from UN-Habitat, as needed.

At the local/city level, another (although much larger in financial terms) Agreement of Cooperation will be signed with Oxfam International, which is a long-standing member of the DiMSUR Executive Board, based on a competitive and well-prepared Expression of Interest. Under this AoC Oxfam International will be responsible for fully executing project activities under Component 1, in partnership with experienced local NGOs, through direct community involvement or, after a tendering process, through qualified local sub-contractors. The latter will always be required to hire local skilled/unskilled man power, as much as possible, so that the project can represent a source of temporary income for the targeted poor communities.

B. Measures for financial and project risk management

Under guidance of the UN-Habitat Project Manager supported by the Deputy Project Manager, the National Project Managers (NPMs) will monitor the status of financial and project management risks at the country/city levels, including those measures required to avoid, minimise or mitigate these risks, throughout the project (please see also Section D, Part III).

The main financial and project risk is related to the lack of capacity of some National Executing Entities to execute the planned project activities under their responsibility (*Expected Output 2.1*). To mitigate this risk, qualified NPMs and technical consultants will ensure quality control and build capacity of these institutions by working closely with them in their project execution responsibilities to comply with the UN-Habitat and Adaptation Fund financial/project management standards and requirements.

After a due financial capacity and management assessment in the four target cities during the project preparation period, a decision was taken by UN-Habitat to avoid any direct contracting of the respective city councils/municipalities for executing project activities under Component 1 due to their severe lack of capacity to manage project funds according to these standards/requirements. Instead, Oxfam International will recruit qualified City Project Managers (CPMs) to support the implementation of this crucial project component. The CPMs will, however,

[64] Agreements of Cooperation are legal instruments that can only be used for contracting public or not-for-profit institutions, under the UN Secretariat rules and regulations.

make efforts during project implementation, to strengthen the capacities for project coordination and supervision at the local level, through the training and capacity building activities planned under the *Expected Output 1.3*. In addition, whenever office space will be available, the CPMs will be embedded/work within the premises of the targeted city councils, so that they can build capacities of the municipal staff concerned by the project implementation 'on the job'.

The table below gives an overview of overall project management and financial risks, an assessment of the significance of the pertaining risks in terms of probability and impact and outlines measures that have been embedded in the project design in order to manage and/or mitigate these risks.

Table 32: Project management and financial risks, significance of risks and measures to manage/mitigate risks

Nr.	Category and risk	Rating of probability and impact (1: Low; 5: High)	Management/mitigation measure
1	**Financial and Institutional:** Capacity constraints of municipal/national institutions may limit the effective implementation of interventions under Components 1 and 2	Prob: 2 Impact: 3	❑ The project has a strong capacity building and training component, designed to promote effectiveness and sustainability at the national government level. Related to this, and to ensure compliance to UN-Habitat and AF (financial) management standards and requirements, qualified NPMs will be hired by UN-Habitat to provide technical support to the execution of the national level activities in each country. ❑ Direct financial transfers to the target municipalities imply a high level of risk (as identified in a financial and management capacity assessment conducted by UN-Habitat during project preparation). Therefore, city level activities will be executed by Oxfam international, by hiring qualified City Project Managers (CPMs) who will work in close cooperation with the municipalities, as their office space (when available) will be within the targeted city councils, hence to build capacities 'on the job'. ❑ For larger infrastructure sub-projects Oxfam will perform a regular procurement process of qualified sub-contractors according to their rules which abbey to international standards. The contract will be awarded to the successful bidder. These contracts will include conditions for construction such as adhering to environmental and social standards and for hiring community members directly in construction activities.
2	**Financial:** Complexity of financial management and procurement procedures under the UN Secretariat rules and regulations, which could delay the project execution	Prob: 2 Impact: 3	❑ Not-for-profit executing partners like National Government entities and Oxfam International will be engaged through standard Agreements of Cooperation (AoCs) that set out the general and project specific terms and conditions for timely disbursement of funds for project activities while at the same time ensure provisions on good financial management, hence minimizing the risk of fund mismanagement or corruption. ❑ Under the financial rules and regulations of the UN Secretariat, UN-Habitat ensures that proper documentation is produced according to clear auditing rules for performing payments under the AoCs. For any AoC above 100,000 USD one independent external audit on the use of the received funds by the implementing partner is required. For AoCs above 200,000 USD two independent external audits are required. For AoCs above 300,000 USD the number of audits is defined by the UN-Habitat Management and Operations Division (MOD).

			❑ As per the UN Secretariat rules and regulations, in UN-Habitat there is a clear separation roles and responsibilities between substantive officers (such as the PM and the DPM) and financial/certifying officers (also called Programme Management Officers – PMOs) to avoid any conflict of interest. PMOs report to MOD while substantive officers report to the Programme Division.
3	**Institutional and social:** Disagreement amongst stakeholders with regards to adaptation measures	Prob: 2 Impact: 3	❑ The selected adaptation sub-projects have been and will continue to be reviewed and awarded based on clear and mutually agreed criteria, including community priorities, environmental and social risks as well as costs. ❑ There has been and will continue to be a participatory approach to prepare and implement this AF project proposal, particularly with regarding to the planning, identification of priority adaptation measures, site selection and monitoring. ❑ At the regional, national and city/local levels, UN-Habitat will be continuously liaising with executing partners on their needs and priorities through its established PST; in particular, at the local level potential conflicts between stakeholders (e.g. between municipal officials and poor communities) will be mediated by the DiMSUR NFPs who will be part of the CPMTs.
4	**Environmental & social:** Current climate and seasonal variability and/or hazard events result in implementation delays or undermine confidence in adaptation measures by local communities	Prob: 2 Impact: 3	❑ Current climatic variability will be taken into account in the planning and execution of project activities and especially into project Component 1. Infrastructure will be mainly constructed during the dry/non-cyclonic season. ❑ Incentives will be provided to municipalities/communities to cooperate towards resilience building through sub-projects' implementation as they are based on long-term climate change predictions.
5	**Institutional and social:** Communities may not adopt activities during or after the AF project, including infrastructure maintenance	Prob: 2 Impact: 2	❑ As much as possible, some of the adopted project implementation approaches/methodologies will be institutionalised within the ministries, local government bodies and communities to ensure sustainable delivery of (post-)project implementation, including agreements for infrastructure maintenance at the city and community level ❑ Capacity building and training of communities and municipal officials will be undertaken under *Expected Output 1.3* to improve their awareness and understanding of the benefits of the activities, including infrastructure maintenance ❑ Bottom-up approach: communities have been and will continue to be involved in project implementation/decision-making throughout the project, to ensure ownership of the realised interventions in the targeted project areas
6	**Institutional:** Different pace of project implementation in the different countries may delay overall project implementation and affect regional activities	Prob: 2 Impact: 2	❑ UN-Habitat will establish appropriate project management and quality control structures at regional, national and local/city levels to monitor, report on and discuss progress on a regular basis and take corrective action where needed to ensure that the project moves at the required pace in all four countries. ❑ National level implementation plans will be developed on an annual basis to guide national activities
7	**Institutional:** A lack of coordination between national governments	Prob: 2 Impact: 1	❑ The main mandate of SADC DRR Unit within the project, with DiMSUR support, will be to coordinate activities among member states at the regional level, especially regarding climate change and disaster risk reduction. Regional coordination mechanisms, especially through the annual PSC meetings, should mitigate this risk.

8	**Institutional:** Loss of government support to the project may result in lack of prioritization of AF project activities (e.g. elections during the project implementation period in 3 out of 4 target countries)	Prob: 1 Impact: 3	❑ The overall participatory project design has ensured ownership at the national and city levels, and thus enhanced government support for project implementation. Government staff is and will continue to be strongly networked into the project execution thanks to the coordination mechanisms established at the regional (PSC), national (NPCTs) and city (CPTs) levels ❑ Importantly, this project has a strong emphasis at the city level considering that the majority of funds are allocated for executing interventions at the community level; hence by ensuring a strong project engagement locally, the probability that national political crises disrupt the smooth project implementation is reduced.
9	**Institutional:** Political influence affects adoption of lessons learned into national and regional adaptation strategies	Prob: 1 Impact: 2	❑ The project partners will work together in a consultative manner with all stakeholders, relevant government departments and institutions to ensure that lessons learned from the project are considered and adequately incorporated in national and regional adaptation strategies. UN-Habitat has been liaising with national government partners on their priorities and needs, especially regarding *Expected Outputs 2.1 and 2.2*, and will continue to do so.
10	**Financial:** Instability in currencies, market prices and availability of project funds	Prob: 1 Impact: 2	❑ As per the UN rules, all project spending is done in USD; this will reduce the impact of price and currency fluctuations at the country level.
11	**Institutional:** Limited coordination with other on-going adaptation initiatives in the target countries	Prob: 1 Impact: 1	❑ A thorough review of on-going initiatives has already been conducted (see Section G, Part II) and partners will be continually consulted to ensure that there is alignment and establishment of synergies with this project proposal in the target countries.

C. Measures for the management of environmental and social risks

Sections E and K, Part II, show the outcome of a systematic screening and impact assessment process detailed in **Annex 7** and that has been done based on information from consultation with national and local government stakeholders, a wide range of other concerned stakeholders as well as the target communities. As shown in Section I, Part II and in the related **Annex 8**, consultation with communities and vulnerable groups focused on: 1) identification of activities / interventions that address specific groups climate change vulnerabilities; 2) identification of specific needs and issues and risks following the 15 AF safeguard areas; and, 3) identification of risk mitigation measures where required. **Annexes 6 and 7** contain the detailed outcomes of these consultations (i.e. inputs of communities and vulnerable groups).

Based on a screening against the stipulated principles in the AF ESP, the project is has been Categorized as a B category risk project.

An Environmental and Social Risk Management Plan has been developed (see **Annex 7**) to ensure that risks are avoided, and that, where this is not the case, they are timeously detected and appropriately mitigated. The ESMP lists all potential risks identified and the preventive / mitigation measures proposed to reduce potentially adverse environmental and social impacts to acceptable levels. The plan also shows how these potential risks and mitigation measures will be further monitored, including responsibilities.

The essence of the ESMP entails:

1. Risks management arrangements

(i) Responsibilities: direct management responsibility of the ESMP will be under the National Project Managers. They will manage and monitor the progress of all project activities, including measures to comply with the ESP, including risks mitigation measures and gender policy (GP). As part of the Project Supervision Team, the Project Manager will have oversight / final compliance responsibility.

(ii) Management and implementation of sub-projects and mitigation measures: although all project activities have been screened against the 15 environmental and social risks areas during project preparation phase, outcomes will be presented during the project inception to all stakeholders to confirm the management and monitoring arrangements and to agree on the implementation of management and mitigation measures through the development of management plans for each sub-project, covering also environmental studies, where required, for the compliance with national technical standards in line with Section F, Part II.

(iii) Adaptive management – dealing with changes during project implementation and approval requirements: if during inception or during project implementation changes in activities or additional activities are required, a 'screening safeguarding procedure' (see figure 1 in **Annex 7**) will be used, together with a sub-project risks screening tool (see figure 2 in **Annex 7**). This process includes beneficiaries vulnerable groups consultations. The grievance mechanism (see below) can also be used to express concerns regarding possible risks and impacts. The ESMP has been revised so that adaptive management is possible. As the bulk of activities are occurring at the city level, the City Project Teams (which meet quarterly or whenever judged necessary) will be able to undertake adaptive management decisions as required. It is reminded that over 70% of the budget will be spent on activities which will occur at the city level. Secondly, for activities taking place at the country level for which adaptive management is necessary, the National Project Coordination Teams will be able to take decisions every 6 months or when required. The PSC will be concerned mainly with the high-level project decisions, including approving the annual workplan, etc.

(iv) Budget: there are no specific budget requirements for project compliance to the ESP and GP. When new screening is required, this will be done by project staf.

2. General environmental and social risks management reduction measures

In addition to the risk management measures identified below, the following elements will be put in place to ensure the compliance with the ESP:

(i) All MoUs and Agreements of Cooperation with Executing Entities will include detailed reference to the ESMP and GP, the 15 ESP Principles and especially compliance to law (Principle 1), human rights (Principle 4), gender approach (Principle 5) and labour and safety standards (Principles 6 and 13).

- Principle 1: References to standards and laws to which the activity will need to comply will be included in all legal agreements with all sub-contractors, including steps and responsibilities for compliance.

- Principle 4: Refetences to relevant Humans rights declarations will be included in all legal agreements with all sub-contractors.
- Principe 6: Employment and working conditions following ILO standards will be included in legal agreements with all sub-contractors.
- Principle 13: Ensure that ICSC international health and safety standards are clearly accessible and understood. e.g. by putting clearly visible signs detailing health and safety standards to be located at projects sites and by supplying protective equipment.

(ii) The UN-Habitat Human Rights Officer and the Project Appraisal Group will check project compliance to the AF ESP during the project (besides the Senior Human Settlements Officer) (Principle 4). A gender specialist within Oxfam will check project compliance to the AF GP during the project.

(iii) Continuous coordination with focal points within ministries and municipalities, responsible for compliance to national and local standards (especially related to EIAs and Gender policies), will take place.

(iv) Capacity building and awareness raising: the management teams, executing entities and target communities, will receive training / capacity development to understand and manage the 15 Principles, the ESMP and in particular their responsibilities. This will be done during inception.

3. Risks monitoring arrangements

(i) This monitoring program commensurate with actions identified below and will report on the monitoring results to the Fund in the mid-term, annual, and terminal performance reports. Monitoring will be done to ensure that actions are taken in a timely manner and to determine if actions are appropriately mitigating the risk / impact or if they need to be modified in order to achieve the intended outcome.

(ii) Annual reporting will include information about the status of implementation of this ESMP, including those measures required to avoid, minimize, or mitigate environmental and social risks. The reports shall also include, if necessary, a description of any corrective actions that are deemed necessary.

(iii) Direct monitoring responsibilities will be under the national project managers. The regional project manager will have oversight / final compliance responsibility. When changes or additional activities are required, monitoring indicators will be changed or added as well.

(iv) Gender specific indicators and targets have been developed as shown in the results framework and summarized in **Annex 6**.

(v) There are no specific budget requirements for risks monitoring other than show in Section D, Part III and the budget.

4. Grievance mechanism

(i) UN-Habitat will implement a grievance mechanism in the target areas, which will allow an accessible, transparent, fair and effective means of communicating if there are any concerns regarding project design and implementation. Employees, and people benefitting / affected by the project will be made aware of the grievance mechanism for any criticism or complaint of an activity.

(ii) In order to ensure transparency and accountability during the implementation process, a Grievance Committee at the municipal level including community representatives will be established in each city. Its constitution was already discussed during the public consultations with the local community, stakeholders and the local government of the four countries.

(iii) This mechanism considers the special needs of different groups as well as gender considerations and potential environmental and social risks. A combination of mailboxes (at community level), confidential persons in the community and phoning options offer an immediate way for employees and people affected by the project to safely express their concerns. The options will allow local languages and offer the opportunity for and people affected by the project to complain or provide suggestions on how to improve project design and implementation, which will be reviewed and taken up by the project implementation team.

(iv) In order to deal with the grievances that may arise during the implementation of the Projects (Component 1), there is need to incorporate a grievance redress process within the ESMP. The grievance redress process will be carried out by the Grievance Committee, which will hear the complaints and provide solutions, and reduce unnecessary litigation by resolving disputes through mediation, with the support of the NPMs. The committee will be responsible for preparing and explaining the communities on potential project impacts and negotiate with the project proponent on any matter that may be of interest at the implementation stage. The target areas shall play a role in the committee through representatives headed by a Chairperson, to be elected by the targeted neighbourhoods who will carry out the following as regards redressing grievances:

(a) Hear the grievances of the targeted people and provide an early solution to those they are able to;

(b) Immediately bring any serious matters to the attention of the Grievance Redressing Committee/Focal Points; and

(c) Inform the aggrieved parties about the progress of their grievances and the decisions of the Grievance Redressing Committee/Focal Points;

(d) Grievance Redressing Committee/Focal Points; shall address the following

Main issues:

(v) Register the grievances raised by the targeted communities affected by the projects; and

(vi) Address the grievances forwarded by the Grievance Redressing Committee/Focal Point representatives.

(vii) The Grievance Redressing Committee/Focal Point in each City will thereby try as much as possible to arrive at a compromise for complaints raised. This may be obtained through series of conciliation, mediation and negotiation exercises conducted with the target communities affected by the projects. If target communities affected by the projects accept the recommendations made by the committee, the committee along with targeted

communities affected by the projects s representative in the committee will hold mediations meetings at the appointed places and time.

(viii) Project staff and the Grievance Redressing Committee/Focal Points will be trained in procedures for receiving messages and on the reporting of any grievances. Community chiefs will also be briefed how to obtain feedback from community members on a regular basis. In addition, monitoring activities allow project participants to voice their opinions or complaints as they may see fit.

(ix) The Location and contact of the members of the Grievance Redressing Committee/Focal Points will be made public as well as the address and e-mail address of the Adaptation Fund will also be made public (i.e. project website, Facebook and mailbox) for anyone to raise concerns regarding the project:

Adaptation Fund Board secretariat
Mail stop: MSN P-4-400
1818 H Street NW
Washington DC

D. Arrangements for monitoring, reporting and evaluation

This project will comply with formal guidelines, protocols and toolkits issued by the Adaptation Fund, UN-Habitat and the respective target countries' governments. The Monitoring and Evaluation (M&E) of progress in achieving project results will be based on targets and indicators established in the Project Results Framework (see below). Besides that, the status of identified environmental and social risks and the ESMP, including those measures required to avoid, minimise or mitigate environmental and social risks, will be monitored throughout the project (6-month and annual project reports, mid-term and terminal independent evaluation reports). The same applies to financial and project management risks and mitigation measures.

Participatory monitoring mechanisms (involving national and local levels of government and communities) will be put in place for the collection and recording of data to support M&E against the defined indicators. The CityRAP planning processes and in-depth community consultations have generated data to inform programming and will also provide a solid baseline for monitoring. In fact the CityRAP process has resulted in City Resilience Action Plans (for Morondava, Zomba and Chokwe) and a 'Resilience Framework for Action' (for Moroni), which outline targets as well as M&E frameworks to measure these targets, and partly form the basis of the proposed result framework for this project.

Communities will be involved in data collection and analysis. This will allow beneficiary communities to work directly within the project's M&E mechanism with the support of the CPMs, to highlight issues with regard to project delivery and to strengthen adaptation benefits, including the replication and sustainability of the project's gains. Data collected will include marginalised groups and will be disaggregated as much as possible.

Guided by the UN-Habitat PST, the NPMs and the CPMs will coordinate in developing **M&E Plans** during the project's inception phase, which will be distributed and presented to all stakeholders during the first regional workshop. The emphasis of the M&E Plan will be on (participatory) outcome/result monitoring, project risks (financial & project management and environmental &

social), learning and sustainability of the project. Periodic monitoring will be conducted through project staff visits to the intervention sites.

UN-Habitat will ensure that through the established PST and in collaboration with the CPMs, the executing partners are fully briefed on the M&E requirements to ensure that baseline and progress data is collected and that a connection between the Knowledge Management component and M&E is established. The different contractual agreements to be prepared will reflect these aspects as well.

Annual **Project Performance Reviews** (PPRs) will be prepared to monitor progress made since the project's start and in particular for the previous reporting periods. The PPRs will include, but will not be limited to, reporting on the following:

- Progress on the project's objective and outcomes – each with indicators, baseline data and end-of-project targets (cumulative);
- Project outputs delivered per project outcome (annual);
- Lessons learned/good practice;
- Annual work plan and expenditure (i.e. annual financial reports);
- Annual management;
- Environmental and social risks (i.e. status of implementation of ESMP, including those measures required to avoid, minimise, or mitigate these risks); the reports shall also include, if necessary, a description of any corrective actions that are deemed necessary;
- Project financial and management risks (same as per above).

Independent mid-term evaluation and terminal evaluation will be conducted in accordance with the UN-Habitat Evaluation Policy and norms and standards for evaluation in the UN system. UN-Habitat will lead the evaluation process in consultation with implementing partners and national stakeholders as a participatory process.

The **mid-term evaluation** will take place after 24 months of project implementation as is UN-Habitat practice for projects with four years or more duration. The mid-term evaluation will assess implementation progress and achievements so far, verify the validity of the intervention logic and provide practical recommendations for follow-up during the remaining period of the project.

An **independent terminal evaluation** will take place as last activity before the operational closure of the project in accordance with AF guidance and following UN-Habitat standard practices for project that are budgeted over 1 million USD. The terminal evaluation will focus on the delivery of the project's results, as initially planned and then reflected in the M&E framework, including the implementation of environmental and social mitigation measures. The terminal evaluation will assess the impacts and sustainability of results, including their contribution to capacity development and the achievement of adaptation benefits.

The **reports** that will be prepared specifically in the context of the M&E are: (i) the M&E Plans; (ii) the project inception report; (iii) 6-month, annual and terminal project performance reports; (iv) the mid-term evaluation; (v) technical reports; and (vi) the independent terminal evaluation.

E. Results framework

Table 33: Project results framework with indicators, their baseline, targets, risks & assumptions and verification means

Expected Result	Indicators	Baseline data	Targets	Risks & assumptions	Data collection method	Frequency	Respon-sibility
Project Component 1: Preparation, implementation and sustainable management of priority sub-projects at the city level							
Outcome 1 Municipal staff, communities and local stakeholders have successfully planned and implemented priority sub-projects for increasing the climate resilience of their city, and have acquired the required capacity to manage and maintain the realised investments Within this panorama, gender equity and justice are promoted at city level trough the active involvement of women in the design and implementation of the sub-projects. An environment that recognises the role of women and enables their empowerment is created.	Nr. of people that have got access to resilient basic services and infrastructure; Nr. of people that got access to improved ecosystem services; Nr. of people that participated to the enhancement of above (in line with AF indicators 3.1, 4.2 and 5)	0	Morondova: 11 communities (with 39,015 inhabitants) Zomba: 8 communities (with 122,239 inhabitants Chokwe: 3 communities (with 45,873 inhabitants) Moroni: 2 communities (with 19,745 inhabitants)	Assumption: most proposed interventions are at community/neighbourhood scale and have an impact on the total community/neighbour-hood (sometimes even city-wide).	Count of communities with access to improved/ newly constructed resilient basic services/ infrastructure and/or ecosystem services and natural assets. Sub-project database reports will show the number of people (disaggregated by age/gender) that have access and how resilience has improved	Baseline, mid-term and end	UN-Habitat
	Number of municipal divisions and staff with increased capacity to minimise exposure to climate variability risks (in line with AF indicator 2.1 % of women who– at different level in the city – have actively participated to the implementation of the sub-projects % increased of women who - at different level and different sector – are actively engaged in socio-	0	4 municipalities 2 departments per municipality, at least 40% of staff 60% of the women in each of the 4 Cities	Staff need to actively engage in trainings Risks: cultural perceptions are strong and hamper the active engagement of the women Assumptions: women are interested and available to be engaged in activities beyond their traditional	Reporting of participation in trainings, including photos Women feedback reports (training and sub-projects reports) Training attendance register (participation) Women focused survey Community/ neighbourhood survey	Baseline, mid-term and end	UN-Habitat and executing entities

	economic development of the City			tasks			
Expected Output 1.1 Sub-projects implementation plans developed with communities and municipalities, including detailed engineering studies Gender perceptions, capacities and skills are taken into consideration and gender needs addressed in the Cities sub-projects implementation plan	Nr. of sub-project implementation plans developed Nr. of sub- projects implementation plans that have a gender approach which clearly define the role and reasonability' of the women in the execution and the gender needs addressed % women satisfied with the sub-projects implementation plan as responding to their need and enhancing their role	0	23 sub-project implementation plans with all technical specifications for each planned investment/activity	Assumption: Designed sub-project implementation plans are fully based on technical assessments and adequately reflect community priorities/needs. Women are interested and have the skills and capacities for taking part in the design of the sub-projects implementation plan Risks: women are relegated to a passive role in the design of the sub-projects implementation plan	Review of plans for sub-projects Women feedback on the sub-project implementation plan processes Activities' attendance register	Baseline, mid-term and end	UN-Habitat
	Nr. of detailed engineering studies to assess environmental and social risks prepared – in line with AF and national requirements	0	4 assessment reports, including risks and mitigation measures per hard intervention	Risk assessments need to be aligned with national standards and include AF environmental and social risk safeguard areas	Review of assessments taking into account AF and national requirements	Baseline, mid-term and end	UN-Habitat
Expected Output 1.2 Priority sub-projects are implemented in the four target cities mainly through community involvement as labour-intensive manpower	Nr. of municipal staff and community members mobilised/trained to ensure proper management/ maintenance of the realised priority actions (in line with AF indicator 2.1.1. and 3.1.1.) – by gender	0	16 municipal level trainings (4 per city) – adequate female participation to be ensured 32 community level trainings (avg. 8 per city) –	Assumption: training support the effective, appropriate and sustainable implementation of the hard interventions; Risk: trainees express concern on the implementation plan of the proposed interventions	Feed-back training reports and photos of activities	Baseline, mid-term and end	UN-Habitat

Women are actively involved and engaged in the implementation of the cities sub-projects and make sure that that gender needs and perspective are concretely addressed.	Nr. of women who have a leadership position in the implementation of the sub-projects implementation plan % of the women who agree that gender needs (as in the sub-project implementation plan) are addressed		60% women/youth	Risk: women roles/leadership is not accepted by the male counterparts Assumption: women are able to commit themselves in contributing to the implementation of the sub-projects	Women survey on their contribution in the implementation of sub-projects Sub-projects Implementation reports Women Feedback on the achievement of a gender approach in the implementation		
Expected Output 1.3 Municipal staff and community members mobilised, trained and equipped for ensuring the sustainable management and/or maintenance of the implemented priority sub-projects Women's role, capacities and skills are enhanced and are included into the sustainability plan of the Cities priority sub-projects	Nr. of municipal staff and community members mobilised/trained to ensure proper management/ maintenance of the realised priority actions (in line with AF indicator 2.1.1. and 3.1.1.) – by gender (At least) 50% of the women have been trained and capacitated % of women whose capacity has been recognized and is reflected into the sustainability plan % of women who have been trained to have an active role in the priority sub-projects	0	16 municipal level trainings (4 per city) – adequate female participation to be ensured 32 community level trainings (avg. 8 per city) – 50% women/youth	Training support effective, appropriate and sustainable implementation of hard interventions; trainees are concerned by the proposed interventions Assumption: women are available to take long -term commitments for ensuring the sustainability of the sub-projects Risks: cultural biases obstacle the engagement of the women	Feedback training reports and photos of activities	Baseline, mid-term and end	UN-Habitat

Activities 1.1.1. Design of detailed sub-project documents, including technical specifications, roles and budgets 1.2.1. Conduct in-depth environmental and social risks and impacts assessments of sub-projects (especially for 'hard'/larger-scale investments) 1.2.2. Developing or strengthening currently vulnerable physical, natural, and social assets and ecosystems in response to climate change impacts, including variability, based on identified and prioritised needs as articulated in detailed sub-projects 1.2.3. Organising trainings for municipal staff and community members on the sustainable management and maintenance of the realised priority interventions	*Milestones* • Detailed sub-project documents developed (month 6) • In-depth assessments conducted (month 9) • Infrastructure/natural assets constructed/developed: month 24 - 10%, month 36 - 50%, month 48 - 100% • Municipal staff and communities trained (month 12 - 10%, month 24 - 25%, month 36 - 50%, month 48 – 100 %)

Expected Result	Indicators	Baseline data	Targets	Risks & assumptions	Data collection method	Frequency	Respon-sibility
Project Component 2: Tools and guidelines development and training delivery at the national level							
Outcome 2 National governments have created institutional arrangements and process for scaling up and replicating the climate resilience approach in other urban settlements Climate resilience approach and decision making is gender based informed	Nr. and type of targeted institutions with increased capacity to minimise exposure to climate variability risks (in line with AF indicator 2.1) Nr. and type of targeted institutions whose staff has been trained %. of women of women who are actively part of high level climate resilience decision making processes and platforms Nr. of inter- departmental high level meetings on climate resilience agenda	0	4 ministries (1 per country)	Assumption: there is clarity on the process to follow, on the measures to taken and on the institutions and ministries to involve Women in leadership position are able and interested in being involved in climate resilience decision-making Risk; national Departments included the ones who deal with gender issues – and officials , do not prioritize climate change resilience process and measures	Minutes of the meetings held at national level for climate resilience decision making Attendance register and agenda of the meetings Content of Inter-departmental decision on climate change	Baseline, mid-term and end	UN-Habitat
Expected Output 2.1: National tools/guidelines/policies/ legislation for promoting urban climate resilience are developed and adopted	% increased integration of Climate change priorities into national development strategy (in line with AF indicator 7)	0	At least 4 (1 for each country)	Assumption: relevant institutions – included the ones that deal with women and gender issues - have been identified and are interested	Report of the high level meeting held and decision taken Agenda of the meeting Attendance register	Baseline, mid-term and end	UN-Habitat

	% increased capacity of the staff to respond to, and mitigate impacts of, climate-related events from targeted institutions i (in line with AF indicator 2.1.2.) Nr. of guidelines/policies adapted, developed or law adjustments Nr .of national departments that deal with women and gender issues have prioritize climate resilience issues % increased of climate resilience policies that are gender sensitive			Risk: institutions are reluctant to adopt new tools, guidelines and/ or to revise the existing ones for including gender sensitive climate resilience approach and measures			
Expected Output 2.2: National and local officers are trained in urban climate adaptation techniques and approaches and have increased their understanding on the importance of climate resilience measures/approaches	Nr of workshops/trainings held at ministerial level Nr. of officials who participate to training for responding to, and mitigating impacts, of climate-related events on urban areas (in line with AF indicator 2.1.1.) % awareness/knowledge increased of the understanding of climate resilience approach /measures Nr. of female l officials who take actively part in the training %increased awareness on the need to take gender informed	0	32 workshops/ trainings (8 per country)	Assumptions: officials – especially female officials- are interested and are available in increasing knowledge and awareness on urban climate resilience tools/issues Risks: officials are overwhelmed by othe tasks and have a passive and non-interactive approach towards the training	Content of the training Training agenda timeframe Training attendance register Feedback training survey	Baseline, mid-term and end	UN-Habitat

	decisions on climate resilience						
Activities 2.1.1 Develop or adapt national guidelines/policies or propose law adjustments for promoting urban climate change adaptation 2.1.2 Organise trainings of ministerial staff to respond to, and mitigate impacts, of climate-related events on urban areas				*Milestones* • National guidelines/policies/legislations developed or adjusted (month 36) • National guidelines disseminated (month 48) Ministerial staff trained (month 12 - 10%, month 24 – 25 %, month 36 -50%, month 48 - 100%)			
Project component 3: Inter-country experience sharing, cross-fertilisation and dissemination of lessons learned at the regional level							
Outcome 3 Local and national governments of the 4 countries have learned from each other appropriate and gender sensitive urban climate adaptation practices and are better prepared to face common transboundary climate-related natural hazards and related impact	Nr. of good practices /lessons learnt per country at national and city level that are shared Nr. of multi-countries meeting held % increased interest and availability in jointly managed climate change transboundary risks and impact, included gender Nr. of policies on gender sensitive climate resilience that have been developed/revised (for incorporating the good practices)	0	4 national reports 4 city level reports	Assumptions: Countries are keen to share good practices and lean from each other Risks: Political consideration interference and different cultural contest	Content of the good practices disseminated and shared ‘ Agenda and minutes of the multi-countries meetings Position taken by the Countries Content of new/revised climate resilience policies	Baseline, mid-term and end	UN-Habitat
Expected Output 3.1 Lessons learned and best practices on gender sensitive climate resilience are captured and disseminated through the SADC DRR Unit in partnership with DiMSUR as regional knowledge management platform	Number of materials shared on SADC DRR Unit and DiMSUR platforms % increased of gender-sensitive good practices shared	0	At least 10 good practice guides on climate change adaptation solutions derived from the local implementation of sub-project in the 4 countries	Assumption: Support from the SADC/DRR UNIT and DIMSUR Interest and availability of the Countries in being part of knowledge exchange Risk: Delay in sharing good practices among the	Online	Regular	UN-Habitat

				Countries and receiving feedback			

Expected Result	Indicators	Baseline data	Targets	Risks & assumptions	Data collection method	Frequency	Respon-sibility
Expected Output 3.2 Cross-fertilisation activities among the participating countries are discussed and prepared and space is specifically allocated for the sharing of gender and climate change issues	Nr. of exchange missions conducted and lessons learned shared Nr. of exchange mission with a focus on gender and climate change Nr. of participants to the missions (gender disaggregated)	0	8	Assumptions: SADC provide support in liaising with the countries; countries are interested and able to support mission Risk: bureaucratic delays by the countries in organizing cross-fertilization activities	Mission agenda and reports Minutes of the meeting held Missions' feedback reports	Regular	UN-Habitat
Expected Output 3.3: Regional workshops for sharing of experience on gender sensitive climate resilience are organized among the different countries, and participation to global events (such as conferences organized for agencies and/or the academia)	Nr. of regional workshops organized Type of material utilized and best gender sensitive practices presented Nr.cof participants (gender disaggregated) who actively participated to the workshop Nr. of bilateral meeting among the countries on gender sensitive climate resilience measures	0	5 regional workshops 20 presentations (5 by each country)	Assumptions: SADC provide support in liaisioning with the Countries and logistical assistance Countries are keen to share experience and learn from each other's Risks: organizational and bureaucratic delays in organizing regional workshop	Workshop agenda and attendance register Workshops reports Feedback from the participants Content of the presentations	Regular	UN-Habitat
Activities 3.1.1. Share lessons learned and best practices online 3.2.1. Organise cross-country advisory and learning missions (by municipalities, ministries and/or communities) 3.3.1. Organise annual regional workshops for experience sharing				*Milestones* • Exchange missions conducted (4 by month 36, 4 by month 48) • Regional workshops organized (month 1, 13, month 25 month 37, month 49)			

Table 34: Project activities and milestones (x)

Activity	Year 1				Year 2				Year 3				Year 4			
1.1.1. Design of detailed sub-project documents, incl. technical specifications, roles and budgets		x														
1.2.1. Implementation of 23 priority sub-projects in the 4 targeted cities				x				x				x				x
1.3.1. Organisation of trainings for municipal staff and community members on the sustainable management and maintenance of the realised physical interventions								x				x				x
2.1.1. Development of national tools, guidelines, policies and/or legislation for promoting urban climate change adaptation												x				
2.2.1. Organisation of trainings of national and local officers to respond to, and mitigate impacts of climate-related events on urban areas												x				x
3.1.1. Share lessons learned and best practices online				x				x				x				x
3.2.1. Organise cross-country advisory and learning missions (by municipalities, ministries and/or communities)								x				x				x
3.3.1. Organise annual regional workshops for experience sharing	x				x				x				x			

Table 35: Indicative Core Indicator Targets

Adaptation Fund Core Indicators	Indicative Targets	Comments
1. Number of Beneficiaries The number of people who have received an input of support from the project as a proxy for increasing adaptive capacity to respond to the impact of climate change	Morondova: 57,910 inhabitants Zomba: 64,692 inhabitants Chokwe: 60,217 inhabitants Moroni: 31,173 inhabitants	Morondova: Total inhabitants of 18 communities Zomba: Total inhabitants of 7 communities Chokwe: Total inhabitants of 4 communities Moroni: Total inhabitants of 4 communities Direct assistance related to assets, development, trainings, communication and information
2. Early Warning Systems (EWS) • Risk knowledge • Monitoring and warning services • Dissemination and communication • Response capacity	EWS in four target cities (with specific neighbourhood focus) with escape routes identified and improved. Main hazard targeted: flood	EWS interventions are a combination of awareness raising and training (especially on the use of EWS equipment), clear and efficient communication channels established, and evacuation routes and safe havens identified/improved
3. Assets produced, developed, improved, or strengthened	To be defined exactly after implementing planned Activity 1.1.1	Count of intervention and indication of change
5. Natural assets protected or rehabilitated	To be defined exactly after implementing planned Activity 1.1.1	Count of intervention and indication of change

F. Project alignment with the Results Framework of the Adaptation Fund

Table 36: Project alignment with the AF Results Framework

Project outcomes	Project Outcome Indicator	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
AF Goal: Assist developing-country Parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change in meeting the costs of concrete adaptation projects and programmes in order to implement climate-resilient measures. **AF Impact:** Increased resiliency at the community, national, and regional levels to climate variability and change.				
Outcome 1: Municipal staff, communities and local stakeholders have successfully planned and implemented priority sub-projects for increasing the climate resilience of their city and have acquired the required capacity to manage and maintain the realised investments	Number of municipal divisions and staff with increased capacity to minimise exposure to climate variability risks Number of communities (and inhabitants) that have access to resilient basic services and infrastructure; and/or improved ecosystem services and natural resource assets, and have participated in the enhancement of above	**Outcome 2:** Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses **Outcome 3:** Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level **Outcome 4:** Increased adaptive capacity within relevant development and natural resource sectors **Outcome 5**: Increased ecosystem resilience in response to climate change and variability-induced stress	2.1. No. and type of targeted institutions with increased capacity to minimize exposure to climate variability risks 3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses 4.1. Development sectors' services responsive to evolving needs from changing and variable climate 4.2. Physical infrastructure improved to withstand climate change and variability-induced stress 5. Ecosystem services and natural assets maintained or improved under climate change and variability-induced stress	10,491,599
Outcome 2: National governments have created enabling conditions for scaling up and replicating the same approach in other urban settlements	Number and type of targeted institutions with increased capacity to minimise exposure to climate variability risks	**Outcome 2:** Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses **Outcome 7:** Improved policies and regulations that promote and enforce resilience measures	2.1. No. and type of targeted institutions with increased capacity to minimize exposure to climate variability risks 7. Climate change priorities are integrated into national development strategy	760,000

Project Outputs	Project Output Indicator	Fund Output	Fund Output Indicator	Grant Amount (USD)
AF Goal: Assist developing-country Parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change in meeting the costs of concrete adaptation projects and programmes in order to implement climate-resilient measures. **AF Impact:** Increased resiliency at the community, national, and regional levels to climate variability and change.				
Expected Output 1.3 Municipal staff and community members mobilised, trained and equipped for ensuring the sustainable management and/or maintenance of the implemented priority sub-projects	Number of municipal staff and community members mobilised/trained to ensure proper management/ maintenance of the realised priority actions	***Output 2.1***: Strengthened capacity of national and regional centres and networks to respond rapidly to extreme weather events	2.1.1. No. of staff trained to respond to, and mitigate impacts of, climate-related events	1,290,000
Expected Output 1.2 Priority sub-projects are implemented in the four target cities mainly through community involvement as labour-intensive manpower	Number of beneficiaries involved as manpower per intervention	***Output 3***: Targeted population groups participating in adaptation and risk reduction awareness activities	3.1.1 No. and type of risk reduction actions or strategies introduced at local level	10,491,599
	Number and type of health/social infrastructure or physical assets developed in a climate resilient manner or nr and type of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability/change (by type)	***Output 4:*** Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability	4.1.1. No. and type of health or social infrastructure developed or modified to respond to new conditions resulting from climate variability and change (by type) 4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by asset types)	
		Output 5: Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability	5.1. No. and type of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type of assets)	

Project Outputs	Project Output Indicator	Fund Output	Fund Output Indicator	Grant Amount (USD)
Expected Output 2.1 National tools, guidelines, policies and/or legislation for promoting urban climate adaptation developed	Climate change priorities are integrated into national development strategy and capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased Number of guidelines/ policies adapted or produced or law adjustments proposed	**Output 7**: Improved integration of climate-resilience strategies into country development plans	7.1. No., type, and sector of policies introduced or adjusted to address climate change risks	270,000
Output 2.2 National and local officers trained in urban climate adaptation techniques and approaches	Number of ministerial level workshops/trainings and count of participants to respond to, and mitigate impacts, of climate-related events on urban areas (by gender)	**Output 2.1:** Strengthened capacity of national and regional centres and networks to respond rapidly to extreme weather events	2.1.1. No. of staff trained to respond to, and mitigate impacts of, climate-related events	490,000

G. Detailed Budget (please see Excel file in Annex 9)

Project component	Outputs	Activity	Total budget	Year 1	Year 2	Year 3	Year 4	Notes
1. Preparation, implementation and sustainable management of priority sub-projects at the city level	Output 1.1. Sub-projects implementation plans fully developed with communities and municipalities, including detailed engineering studies	1.1.1. Design of detailed sub-project documents, incl. technical specifications, roles and budgets	$396,000	$396,000	$0	$0	$0	A
	Output 1.2. Priority sub-projects are implemented in the four target cities mainly through community involvement as labour-intensive manpower	1.2.1. Implementation of 23 priority sub-projects in the 4 targeted cities	$7,749,999	$1,500,000	$2,200,000	$2,200,000	$1,849,999	B
	Output 1.3. Municipal staff and community members mobilised, trained and equipped for ensuring the sustainable management and/or maintenance of the implemented priority sub-projects	1.3.1. Organisation of trainings for municipal staff and community members on the sustainable management and maintenance of the realised physical interventions	$2,345,600	$586,400	$586,400	$586,400	$586,400	C
	Project component total		**$10,491,599**	**$2,482,400**	**$2,786,400**	**$2,786,400**	**$2,436,399**	
2. Tools and guidelines development and training delivery at the national level	Output 2.1 National tools, guidelines, policies and/or legislation for promoting urban climate adaptation developed	2.1.1. Development of national tools, guidelines, policies and/or legislation for promoting urban climate change adaptation	$270,000	$40,000	$80,000	$80,000	$70,000	F
	Output 2.2. National and local officers trained in urban climate adaptation techniques and approaches	2.2.1. Organisation of trainings of national and local officers to respond to, and mitigate impacts of climate-related events on urban areas	$490,000	$80,000	$160,000	$160,000	$90,000	G
	Project component total		**$760,000**	**$120,000**	**$240,000**	**$240,000**	**$160,000**	
3. Inter-country experience sharing, cross-fertilisation and dissemination of lessons learned at the regional level	Output 3.1. Lessons learned and best practices captured and disseminated through the SADC DRR Unit in partnership with DiMSUR as regional knowledge management platform	3.1.1.Compilation and dissemination of lessons learned and best practices online (i.e. through knowledge hub)	$170,000	$0	$50,000	$70,000	$50,000	H
	Output 3.2. Cross-fertilisation activities among the participating countries are discussed and prepared	3.2.1. Organisation of cross-country advisory and learning missions (by municipalities, ministries and/or communities)	$120,000	$0	$40,000	$40,000	$40,000	I
	Output 3.3. Regional workshops for experience sharing among the different countries, and participation to global events	3.3.1. Organisation of annual regional workshops for experience sharing, and participation to global events	$240,000	$60,000	$60,000	$60,000	$60,000	J
	Project component total		**$530,000**	**$60,000**	**$150,000**	**$170,000**	**$150,000**	
		Sub-Total Project Activities	**$11,781,599**	**$2,662,400**	**$3,176,400**	**$3,196,400**	**$2,746,399**	
Project Execution Costs (9.5%)		Project Manager (P3 level / 75% staff time)	$400,000	$100,000	$100,000	$100,000	$100,000	K
		National Project Managers (NPMs)	$620,000	$155,000	$155,000	$155,000	$155,000	
		Travel for project execution purposes (PM and so on)	$40,000	$10,000	$10,000	$10,000	$10,000	
		Mid term evaluation	$15,000	$0	$15,000	$0	$0	
		Final Evaluation of the project	$15,000	$0	$0	$0	$15,000	
		Misc/operational/other costs for NPMs	$29,252	$7,313	$7,313	$7,313	$7,313	
		Sub-Total Project Execution	**$1,119,252**	**$272,313**	**$287,313**	**$272,313**	**$287,313**	
		Total Project Costs	**$12,900,851**	**$2,934,713**	**$3,463,713**	**$3,468,713**	**$3,033,712**	
Project Cycle Management (8.5%)		Senior Human Settlements Officer (P5 level / 5% staff time)	$40,000	$10,000	$10,000	$10,000	$10,000	L
		Project Assistant and KM expert (NO-B level / 50% staff time)	$132,000	$33,000	$33,000	$33,000	$33,000	
		Travel for monitoring/oversight missions	$21,512	$5,378	$5,378	$5,378	$5,378	
		Project Support Costs = 7% of Total Project Costs	$903,060	$205,430	$242,460	$242,810	$212,360	
		Project cycle management total	**$1,096,572**	**$253,808**	**$290,838**	**$291,188**	**$260,738**	
Amount of Financing Requested			**$13,997,423**	**$3,188,521**	**$3,754,551**	**$3,759,901**	**$3,294,450**	

Item/ Note	Budget description and related outputs	Description of expenditure	Countries	Number per country	Quantity / months per country	US$ per quantity / month	Total US$
A	Contractual services, workshops, materials & goods and travel Output 1.1. Sub-projects implementation plans fully developed with communities and municipalities, including detailed engineering studies	Lead developer of detailed sub-project documents	4.00	1.00	3.00	$ 5,500.00	$ 66,000.00
		Experts (engineers, architects, etc.) to provide technical inputs and carry out engineering studies to complete sub-project documents	4.00	3.00	3.00	$ 4,500.00	$ 162,000.00
		Lead organizer community consultations	4.00	1.00	3.00	$ 3,000.00	$ 36,000.00
		City/community consultation and analysis assistance	4.00	2.00	3.00	$ 2,500.00	$ 60,000.00
		City/community workshops	4.00	2.00	1.00	$ 2,500.00	$ 20,000.00
		Communication (data for tablets, GIS, etc.)	4.00	1.00	1.00	$ 1,000.00	$ 4,000.00
		Laptops/tablets, printer	4.00	2.00	1.00	$ 2,000.00	$ 16,000.00
		Transport (travel / der diem also for consultations)	4.00	4.00	1.00	$ 2,000.00	$ 32,000.00
		Total					**$ 396,000.00**
B	Contractual services for the implementation of priority sub-projects Output 1.2. Priority sub-projects are implemented in the four target cities mainly through community involvement as labour-intensive manpower	Implementation of priority sub-projects - see detailed budget in separate sheet (Expected Output 1.2)					**$ 7,749,999.00**
C	Contractual services, workshops, materials & goods and travel Output 1.3. Municipal staff and community members mobilised, trained and equipped for ensuring the sustainable management and/or maintenance of the implemented priority sub-projects	Lead organizer/developer trainings	4.00	1.00	48.00	$ 4,500.00	$ 864,000.00
		Trainings assistance + technical inputs	4.00	2.00	24.00	$ 3,000.00	$ 576,000.00
		Municipality/community mobilizer / technical expert	4.00	1.00	48.00	$ 2,300.00	$ 441,600.00
		Trainings and materials city-level	4.00	4.00	1.00	$ 4,000.00	$ 64,000.00
		Trainings and materials community level	4.00	8.00	1.00	$ 2,500.00	$ 80,000.00
		Transport (travel / der diem)	4.00	40.00	1.00	$ 2,000.00	$ 320,000.00
		Total					**$ 2,345,600.00**
	Sub-Total Project Outcome 1						**$ 10,491,599.00**
F	Contractual services, workshops, materials & goods and travel Output 2.1 National tools, guidelines, policies and/or legislation for promoting urban climate adaptation developed	Lead writer guidelines/policies/legislation	4.00	2.00	4.00	$ 3,000.00	$ 96,000.00
		Technical expert to provide inputs guidelines/strategies/plans/tools	4.00	2.00	4.00	$ 2,000.00	$ 64,000.00
		Workshops, Production and dissemination	4.00	4.00	1.00	$ 5,000.00	$ 80,000.00
		Transport (travel / der diem)	4.00	4.00	1.00	$ 1,875.00	$ 30,000.00
		Total					**$ 270,000.00**
G	Contractual services, workshops, materials & goods and travel Output 2.2. National and local officers trained in urban climate adaptation techniques and approaches	Lead organizer/developer trainings	4.00	1.00	12.00	$ 3,000.00	$ 144,000.00
		Technical expert to provide inputs to trainings	4.00	1.00	12.00	$ 2,000.00	$ 96,000.00
		Trainings, workshops and materials	4.00	4.00	1.00	$ 10,000.00	$ 160,000.00
		production and dissemination	4.00	1.00	1.00	$ 6,500.00	$ 26,000.00
		Transport (travel / der diem)	4.00	4.00	1.00	$ 4,000.00	$ 64,000.00
		Total					**$ 490,000.00**
	Sub-Total Project Outcome 2						**$ 760,000.00**
H	Contractual services, workshops, materials & goods and travel Output 3.1. Lessons learned and best practices captured and disseminated through the SADC DRR Unit in partnership with DiMSUR as regional knowledge management platform	Consultants for drafting the best practices		4.00	2.00	$ 5,000.00	$ 40,000.00
		Drafting of regional guidelines and training materials		1.00	10.00	$ 4,000.00	$ 40,000.00
		Senior trainers		2.00	5.00	$ 6,000.00	$ 30,000.00
		Training workshops	4.00	1.00	1.00	$ 10,000.00	$ 40,000.00
		Transport (travel / der diem)		8.00		$ 2,500.00	$ 20,000.00
		Total					**$ 170,000.00**
I	Contractual services, workshops, materials & goods and travel Output 3.2. Cross-fertilisation activities among the participating countries are discussed and prepared	Technical peer reviewers	4.00	1.00	2.00	$ 5,000.00	$ 40,000.00
		Technical expert for project design and resource mobilisation	4.00	1.00	2.00	$ 5,000.00	$ 40,000.00
		Cross-country advisory and learning exchange missions (by municipalities/ministries/comunities)	4.00	1.00	1.00	$ 10,000.00	$ 40,000.00
		Total					**$ 120,000.00**
J	Output 3.3. Regional workshops for experience sharing among the different countries, and participation to global events	Regional workshops (including travel costs of participants)	4.00	1.00	1.00	$ 50,000.00	$ 200,000.00
		Participation to international/global events	4.00	1.00	1.00	$ 10,000.00	$ 40,000.00
		Total					**$ 240,000.00**
	Sub-Total Project Outcome 3						**$ 530,000.00**
	Sub-Total Project Activities						***$ 11,781,599.00***
K	**Project Execution Costs (9.5%)**	Project Manager (P3 level / 75% staff time)	1.00	1.00	48.00	$ 8,333.33	$ 400,000.00
		National Project Managers (NPMs)	4.00	1.00	48.00	$ 3,229.17	$ 620,000.00
		Travel for project execution purposes (PM and so on)	4.00	1.00	1.00	$ 10,000.00	$ 40,000.00
		Mid term evaluation	1.00	1.00	1.00	$ 15,000.00	$ 15,000.00
		Final Evaluation of the project	1.00	1.00	1.00	$ 15,000.00	$ 15,000.00
		Misc/operational/other costs for NPMs	4.00	1.00	1.00	$ 7,313.00	$ 29,252.00
	Sub-Total Execution Costs						**$ 1,119,252.00**
	Total Project Costs						***$ 12,900,851.00***
L	**Project Cycle management (8.5%)**	Senior Human Settlements Officer (P5 level / 5% staff time)	1.00	1.00	48.00	$ 833.33	$ 40,000.00
		Project Assistant and KM expert (NO-B level / 50% staff time)	1.00	1.00	48.00	$ 2,750.00	$ 132,000.00
		Travel for monitoring/oversight missions	4.00	1.00	1.00	$ 5,378.00	$ 21,512.00
		Project Support Costs = 7% of Total Project Costs					$ 903,060.00
	Sub-Total Project Cycle Management						**$ 1,096,572.00**
	Amount of Financing Requested						***$ 13,997,423.00***

Table 37: Project M&E work plan and budget

Activity	Responsible parties	Budget USD	Time frame																Notes
			Year 1				Year 2				Year 3				Year 4				
Measurements of means of verification (baseline and M&E plans)	Project Manager and National Project Managers	20,000 from Project Execution Costs																	Before and during first regional meeting
Direct project monitoring and quality assurance including progress and financial reporting, project revisions, technical assistance and risk management	Project Manager and National Project Managers (25% staff time + mission costs)	270,000 from Project Execution Costs																	Every six months and annually. Building on executing parties' and community level monitoring.
Independent mid-term evaluation	External consultants	15,000 from Project Cycle Mgt Costs																	At the mid-term of the project
Independent terminal evaluation	External consultants	15,000 from Project Cycle Mgt Costs																	At the end of project implementation
Monitoring, oversight and supervision	SHSO in UN-Habitat Regional Office for Africa (ROAf)	61,512 from Project Cycle Mgt Costs																	Every six months and annually and as needed
Total		381,512																	

H. Disbursement schedule

	Year 1	Year 2	Year 3	Year 4
Milestone	1st disbursement – upon agreement signature Milestones (by end of year) set for activities: 1.1.1. 1.2.1. 1.3.1 3.1.1. 3.3.1.	2nd disbursement – One Year after project start ▪ Upon First annual Report ▪ Upon financial report indicating disbursement of at least 70% of funds Milestones (by end of year) set for activities: 1.2.1. 1.3.1. 2.1.2. 2.1.1. 2.2.1. 3.1.1. 3.2.1. 3.3.1.	3rd disbursement - Two years after project start ▪ Upon Second annual Report ▪ Upon financial report indicating disbursement of at least 70% of funds Milestones (by end of year) set for activities: 1.2.1. 1.3.1. 2.1.2. 2.1.1. 2.2.1. 3.1.1. 3.2.1. 3.3.1.	4th disbursement – Three years after project start ▪ Upon Third annual Report ▪ Upon financial report indicating disbursement of at least 70% of funds Milestones (by end of year) set for activities: 1.2.1. 1.3.1. 2.1.2. 2.2.1. 3.1.1. 3.2.1. 3.3.1.
Schedule date	Oct. 2018	Oct. 2019	Oct.2020	Oct. 2021
Project activities	US$2,662,400	US$3,176,400	US$3,196,400	US$3,746,399
Execution costs	US$272,313	US$287,313	US$272,313	US$287,313
MIE fee	US$253,808	US$290,838	US$291,188	US$260,738

PART IV: ENDORSEMENT BY GOVERNMENTS AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government

Government of Malawi: Mr. Peter K. Simbani Director, Debt & Aid Management Division, Ministry of Finance	Date: *4 April 2018*
Government of Madagascar: Ms. Jane Alice Laurette Razanamiharisoa Chef du Service Adaptation au Changement Climatique, Direction du Changement Climatique	Date: *4 April 2018*
Government of Mozambique: Mrs. Sheila Santana Afonso Permanent Secretary Ministry of Land, Environment and Rural Development	Date: *7 March 2018*
Government of the Union of Comoros: Colonel Ismael Mogne Daho Directeur Général de la Sécurité Civile	Date: *2 April 2018*

B. Implementing Entity certification

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans of Madagascar, Malawi, Mozambique and the Union of Comoros and subject to the approval by the Adaptation Fund Board, commit to implementing the project in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.	
Rafael Tuts, Director Programme Division, UN-Habitat *Implementing Entity Coordinator*	
Date: 16 April 2018	Tel.nr: +254-20-7623726 email: rafael.tuts@unhabitat.org
Project Contact Person: *Mathias Spaliviero, Senior Human Settlements Officer, Regional Office for Africa, UN-Habitat*	
Tel. nr: + 254-20-7624716 Email: mathias.spaliviero@unhabitat.org	