ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Regional Project

Countries/Region: Republic of Azerbaijan and Islamic Republic of Iran
Project Title: Urbanisation and Climate Change Adaptation in the Caspian Sea Region
Thematic Focal Area:
Implementing Entity: United Nations Human Settlements Programme - UN-Habitat
Executing Entities: United Nations Environment Programme – UNEP; International Organisation for Migration – IOM
AF Project ID:
IE Project ID: **Requested Financing from Adaptation Fund (US Dollars):** 14,000,000
Reviewer and contact person: Daniel Gallagher **Co-reviewer(s):** Saliha Dobardzic, Imèn Meliane
IE Contact Person: Katja Schäfer

Technical Summary	The project "Urbanisation and Climate Change Adaptation in the Caspian Sea Region" aims to enhance climate change adaptation and resilience of local communities in the Republic of Azerbaijan and the Islamic Republic of Iran while fostering adaptation capacities and knowledge throughout the Caspian Sea region. This will be done through the four components below: • Component 1: Climate change adaptation planning at the Caspian Sea regional level (USD 1,000,000); • Component 2: Climate change adaptation planning at national level in the Republic of Azerbaijan and the Islamic Republic of Iran (USD 1,943,768); • Component 3: Implementation of transformative and catalytic projects at national, city and community level addressing urban resilience and climate change adaptation in the Republic of Azerbaijan and the Islamic Republic of Iran (USD 8,040,000); • Component 4: Urban resilience, climate change adaptation partnerships, institutional, legal, research cooperation and knowledge at the Caspian Sea regional level (USD 800,000).

	The initial technical review raises several issues, such as inconsistencies in funding requested for components and management fees, long term sustainability, realistic feasibility of a successful implementation, commensurability of investment to the problem, and management of environmental and social risks, as discussed in the number of Clarification Requests (CRs) and Corrective Action Request (CAR) raised in the review.
Date	26 January 2023

Review Criteria	Questions	Comments	Feedback UN-Habitat
Country Eligibility	1. Are all of the participating countries party to the Kyoto Protocol, or the Paris Agreement?	**Yes.**	No further clarification required.
	2. Are all of the participating countries developing countries particularly vulnerable to the adverse effects of climate change?	**Yes.** Key vulnerabilities of the Caspian Sea Region to climate change include sea level rise, extreme weather patterns, biodiversity loss, and the impact of urbanization on land and marine ecosystems.	No further clarification required.
Project Eligibility	1. Have the designated government authorities for the Adaptation Fund from each of the participating countries endorsed the project/programme?	**Yes**, as per the letters of endorsement from the Designated Authorities dated January 2023 and July 2022.	No further clarification required.
	2. Does the length of the proposal amount to no more than one hundred (100) pages for the fully-developed project document, and one hundred (100)	**Yes.** The proposal is 87 pages long.	The overall length of the proposal is 88 pages for the fully developed project document and 76 pages for the annexes and references, totalling 164 pages.

	pages for its annexes?		
	3. 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?	**Yes.** Concrete activities focus on ecosystem improvements, early warning systems, improved water management infrastructure and integrated water management planning. The regional approach is appropriate and justified, however, the countries represented are only a subset of the nations abutting the Caspian Sea. Ideally, coordination among all the countries surrounding the sea would occur. It is not clear if this project would pave way towards such coordination, and why this approach was limited to these two countries only. Annex 5 provides a summary of the concrete investments under Component 3, including a green corridor with rainwater harvesting, early warning for salinization, droughts and flooding, and measures to improve water security through rainwater harvesting and integrated water management planning. While the schematic sketches and maps are helpful, it is unclear whether the concrete measures outlined are designed to be commensurate with the effects of climate change under different scenarios. **CAR1:** Please demonstrate how the concrete investments under Component	*Regional approach and climate adaptation measures implemented in the Republic of Azerbaijan and the Islamic Republic of Iran:* The programme has been prepared as a regional programme with national project components being implemented in two of the five littoral states of the Caspian Sea, namely in the Republic of Azerbaijan and the Islamic Republic of Iran. The coastal areas of both countries are are more densely populated and furtherrapidly urbanizing (i.e., pace is quicker than in the other three countries), with increased vulnerabilities to urban populations compared to the coastlines of the Russian Federation, Kazakhstan and Turkmenistan. Hence, these two countries were selected for the implementation of climate action. The proposed local interventions as outlined in Annex 5 are no-regret measures that are designed to be commensurate with the effects of climate change under different scenarios. These have been identified based on the suitability to the specific context and impacts on adapting to climatevariability and change, addressing community vulnerabilities, safeguard concerns, economic viability based on a cost-

		3 are designed to be commensurate in scale and extent for the expected long-term impacts of climate variability and change under a range of scenarios and clarify how the activities proposed here would address the non-climatic drivers of the impacts. Please explain why the regional approach limited to these two countries only is justified.	effectiveness analysis, priorities outlines by the national governments in national and regional development plans as well as the availability of bankable project documents. The regional programme components executed by UNEP in support of the Tehran Convention are aimed at regional exchange and coordination among all Caspian littoral states. Lessons learnt from the implementation of local and national components are to incentives the additional adaptation measures in all Caspian littoral countries. The knowledge products developed by the programme . are meant to be the base for further resource mobilization for climate change adaptation in an urbanizing coastal region. Hence, this regional programme will pave way towards such coordination and tailoring adaptation measures in the region. . **CAR 1:** From the gender equity perspective, the project ensures women's participation in workshops, trainings and consultations. Developed integrated water management plan as well as communication products and studies will include comprehensive analysis of the differentiated risks and vulnerabilities of women and girls, and adaptation options that benefit them. A number of knowledge products for the

			Caspian Sea Day will have a focus on the adaptation priorities and actions of women. Women are envisaged as target group for multi-media materials creation and knowledge sharing, education materials on water use in urban and rural areas, decision-making trainings.
	4. 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.** The project describes benefits to vulnerable groups, communities, and individuals, particularly women, children, the elderly, urban migrants and seasonal workers. The benefits to vulnerable groups, however, are not well quantified in depth as expected for a fully developed project. It is especially unclear, given the non-climatic dimensions of the drivers of vulnerability that the project will be able to make a meaningful impact, if the current urban development dynamics are not addressed in a systemic and foundational way. **CAR2:** In the discussion of economic, social and environmental benefits, please include all quantitative measures possible, even if estimated, for the adaptation benefits that are expected to accrue to vulnerable groups. Please note that there needs to be thorough substantiation and that assumption-based reasoning, even if logical, is not	The benefits to vulnerable groups have been elaborated in more depth in Annex 5, considering both the climatic and non-climatic dimensions of drivers of vulnerability to generate meaningful impacts. The current urban development dynamics are to be addressed at the local and national levels, through an overarching integrated coastal zone management plan, representing a systemic and foundational way forward. **CAR2:** Quantitative measures for economic, social and environmental benefits to vulnerable groups have been outlined to the extent possible. There is limited secondary data available for several vulnerable groups. Despite the Covid-19 pandemic posed limitations to community consultations and site visits over the past two years the project developersinteracted with the vulnerable groups at the project sites. A more in-depth refinement of the economic, social and environmental benefits for the vulnerable groups is to be conducted

		sufficient at fully-developed proposal stage. **CR1**: Please clarify how vulnerable communities are expected to be engaged throughout the duration of project implementation so as to ensure maximum impact in delivering economic, social and environmental benefits and preventing the inequitable sharing of project benefits, including from the perspective of gender equity.	during the inception phase of the programme in the respective locations. **CR1:** Vulnerable groups will be actively engaged throughout project implementation in both countries to ensure maximum impact in delivering economic, social and environmental benefits and preventing the inequitable sharing of project benefits, including from the perspective of gender equity.
	5. Is the project / programme cost-effective and does the regional approach support cost-effectiveness?	**Not clear.** The proposal outlines a generally logical explanation of the selected scope and approach. As the effects of climate change are similar across the Caspian Sea Region, there is benefit in the regional approach to fostering adaptation capacities and knowledge throughout the region. However, there is a possibility of duplicated efforts across component activities that could benefit from better regional coordination. **CR2**: Please clarify how the project will maximize the benefits of the regional approach to coordination to ensure that the "scaling" of local level adaptation action draws on the knowledge accrued through the project to enable tailoring of future adaptation measures based on the	The possibility of duplicated efforts across component activities will be addressed during the inception phase of the programme implementation, across local, national and regional scales. The well-coordinated implementation among the various partners is a pre-condition for the sustainability of the local climate interventions. **CR2:** The project will maximize the benefits of the regional approach to coordination to ensure the "scaling" of local-level adaptation action. It will draw on the knowledge and lessons learnt throughout the project implementation. The national and local components include stakeholder consultations, feasibility studies and case studies. This will enable the project will enable the tailoring of

		specificity of vulnerability and impacts in different locations. **CAR3**: Please update the section on cost effectiveness to include a clear description of alternative options to the proposed measures, to allow for a comprehensive assessment of the project cost effectiveness. In doing so, please include comparison to other possible interventions that could have taken place to deliver adaptation benefits to those identified as vulnerable to climate change, and providing quantitative estimates where feasible.	future adaptation measures based on the specificity of vulnerability and impacts in different locations. **CAR 3:** The section on cost-effectiveness has been updated to include a clear description of alternative options to the proposed measures, to allow for a comprehensive assessment of the project cost effectiveness.
	6. 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.** The project is consistent with climate and disaster risk reduction strategies and policies in Azerbaijan and Iran.	No further clarification required.

	7. Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund?	**Yes.** The project appears to be compliant with a wide range of relevant national technical standards (pp. 28-30). **CR3**: Please clarify whether an Environmental Impact Assessment (EIA) is required for any activity under Component 3 in line with national laws and standards. If so, specify the steps towards compliance with this requirement.	Indeed, the project aims to be compliant with a wide range of relevant national technical standards. During the programme implementation and the inception period in particular, further discussion on alignment with relevant legislation and technical standards is to be outlined for guidance. **CR3:** Environmental Impact Assessments (EIA) - if required for activities under Component 3 - will be conducted in line with national laws and standards. The potential steps towards EIA compliance in the Republic of Azerbaijan and the Islamic Republic of Iran are context-specific and vary. The following steps shall be considered. • Review of relevant national laws and standards for EIA, including environmental legislation, regulations, and guidelines related to conduct EIAs. • Determination of the scope and objectives of the EIA with key stakeholders at the national and local levels. • Site assessment to gather data and information on the local environment and surrounding area, including surveys, site visits, and other forms of research.

			• Preparation of draft EIA report, including analysis of potential environmental impacts of proposed local climate action and description of responses to be taken. • Public consultation process to gather feedback and input from stakeholders, including local communities (including vulnerable groups), government agencies, and CSOs, particularly environmental groups. • Revision of the EIA report based on feedback received during the public consultation process. • Submission of final EIA report to relevant authorities for review and approval. • Implementation of responses outlined in the EIA report and monitoring of the environmental impacts of local climate action over time to ensure compliance with national laws and standards.
	8. Is there duplication of project / programme with other funding sources?	**No.** The proposal identifies relevant interventions, lessons learned from these, and opportunities for complementarity.	No further clarification required.
	9. Does the project / programme have a learning and knowledge	**Yes.** The project aims to support a range of knowledge activities and intended products. Please see **CR2** above.	No further clarification required.

	management component to capture and feedback lessons?		
	10. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations?	**Not clear.** A range of consultations has taken place, including in the Republic of Azerbaijan, the Islamic Republic of Iran and the Tehran Convention Interim Secretariat and scientific entities. Community-level consultations have also taken place. Additional consultations are proposed during implementation to refine target areas and interventions. However, the consultations seem to have been undertaken prior to concept endorsement. No evidence of more recent and in-depth, project-specific consultations could be found. For Iran, the following statement was found in Annex 4 Overview of Consultations: "Due to the prevailing travel and contact limitations to and within the respective communities and municipal areas in the Islamic Republic of Iran, only informal conversations could be held. For the upcoming planned elaboration of the Project Proposal further consultations will have to be held to refine the Concept Note findings." **CR4:** Please provide the evidence of updated and elaborated consultations	**CR4:** Consultations with local, national, and regional stakeholders have been conducted during the concept note and project proposal development stages. The full proposal was submitted in August 2022. Hence, the majority of consultations have been conducted until that time. The project proposal was not accepted due to irregularities with the AF focal point for the Islamic Republic of Iran. This has been clarified and a resubmission was made in January 2023. Selected consultations were made in the refinement process between August 2022 and January 2023. Consultations were undertaken prior to concept endorsement. The evidence of more recent and in-depth, project-specific consultations has been updated in Annex 4. As part of an iterative approach, additional consultations are proposed during the inception phase of the programme implementation and throughout to refine target areas and interventions.

		and correct and modify Annex 4 accordingly. **CR5**: Please clarify how the consultative processes undertaken to date have been gender-responsive and accounted for gender considerations. Please include a full summary of the concerns, as well as the suggestions which are largely already included, from these consultations. **CR6**: Please clarify the intended scope and duration of the consultations proposed during implementation to refine target areas and interventions. In doing so, please clarify the extent to which these consultations may influence any change to the intended adaptation interventions proposed.	**CR5**: Consultations were conducted at the regional level facilitated by the Tehran Convention Interim Secretariat, both in person during regional meetings as well as online through the respective representatives from the five Caspian Sea littoral states. At the national level, Steering Committee meetings comprising key experts from sectoral ministries were conducted in the Republic of Azerbaijan and the Islamic Republic of Iran, and recommendations were included in the elaboration of the full project proposal. At local level, consultations were conducted with local government representatives, civil society partners, local communities, including vulnerable groups. These were both conducted in person when travels to the locations were possible and remotely by phone and means of web-based meetings when travelling was not possible. These were facilitated by national consultants both in the Republic of Azerbaijan and the Islamic Republic of Iran. Moreover, a mission by the international consultant was conducted to the Republic of Azerbaijan, supported by IOM. In the Islamic Republic of Iran, the national consultant was supported by the UN-Habitat office in Teheran. Particular

			attention was placed on genderresponsiveness of proposed target areas and the potential benefits of vulnerable groups. In both country contexts, separate meetings between men and women were held at the local level to carve out specific needs and requirements. The summary of concerns and suggestions from these consultations was updated in Annex 4. **CR6**: Indeed, the Covid-19 pandemic has prevented the carrying out of all the planned consultations to the full extent. Further consultations are envisaged during the inception phase of the programme to complete the consultation process and achieve more comprehensive needs consideration for vulnerable categories, including women. During the consultations with relevant stakeholders', it was ensured that the special attention is paid to the importance of the last-mile communication on early warning and rainwater harvesting to vulnerable groups such as women (including women staying behind). During the consultation process such challenges as a great number of female-headed households in the targeted areas and a greater impact

			of food security risks on women and children were identified, which are considered for addressing throughout the implementation process. As a result of the additional consultations, a change in intended adaptation interventions is not intended. Rather it will contribute to a better targeting of vulnerable groups.
	11. Is the requested financing justified on the basis of full cost of adaptation reasoning?	This should be further revised after addressing **CAR1** above.	Indeed, the required financing is fully justified on the basis of outlined costs of adaptation reasoning. This information has been updated in Annex 5. The requested financing for climate adaptation is justified based on the innovative nature of such interventions in the Republic of Azerbaijan and the Islamic Republic of Iran where climate change adaptation is still to be mainstreamed in development practice. Awareness among key urban stakeholders is low and the capacities of civil society and the private sector are to be developed. Hence, the increased costs of climate change impact in the Caspian Sea region. These costs can take the form of physical damages to infrastructure, economic losses due to reduced productivity, and health impacts from increased exposure to extreme weather events and other climate-related risks.

			The costs of inaction on climate adaptation can be substantial, and in many cases, will far outweigh the upfront investment required to implement effective adaptation measures. Investing in climate change adaptation measures at the local level can also have positive economic benefits. For example, upgrading infrastructure to be more resilient to extreme weather events can reduce the frequency and severity of disruptions, leading to increased productivity and economic growth. Investing in green infrastructure, such as rainwater harvesting systems and green roofs, can also provide a range of environmental, economic and social benefits, including reduced flooding, improved air quality, increased property values and improved well being. The outlined costs for the local initiatives outlined in Component 3 have been discussed with the national and local stakeholders, and the compelling demand for climate change adaptation measures was made. Investing in effective adaptation measures has been identified as a factor contributing to the reduction of costs of inaction in the future, while also providing economic, social, and environmental benefits to most vulnerable communities and

			contributing to sustainable development in the long run.
	12. Is the project / program aligned with AF's results framework?	**Yes.**	No further clarification required.
	13. Has the sustainability of the project/programme outcomes been taken into account when designing the project?	**No, not fully.** It is stated that "interventions will be maintained in partnership with local governments, public utilities and communities" but it is unclear, specifically, how interventions in the proposal are to be sustained in the long term. Furthermore, please explain how gender-responsive access to benefits and can be ensured in the long term. **CR7**: Please describe plans for maintenance, upkeep and future funding for the project interventions after the end of the project, including green corridor, rainwater harvesting, early warning systems, and measures to improve water security. In doing so, please clarify what management mechanisms are foreseen and how the risk of "slow enforcement and execution mechanisms" is managed from a sustainability perspective.	The sustainability of the programme outcomes has been taken into account when designing the project. In addition to the stated fact that "interventions will be maintained in partnership with local governments, public utilities and communities' additional information has been provided in the relevant section outlining how local interventions are to be sustained in the long term. Moreover, gender-responsive access to benefits has been elaborated more specifically. **CR7**: Plans for maintenance, upkeep and future funding for the project interventions after the end of the project, including the green corridor, rainwater harvesting, early warning systems, and measures to improve water security have been discussed with relevant government counterparst as indicated in Annex 5. Foreseen management mechanisms have been added. Moreover, ways to manage risks of "slow enforcement and execution mechanisms" is outlined from a sustainability perspective.

			the long-term effects of gender-responsive access to benefits is expected to be achieved through the implementation of objective of strengthening technical and institutional capacity at the regional, national and local level as well as the orientation on building the long-term sustainability of the countries and local communities that brings not only environmental, but also economic and social benefits. Envisaged early-warning systems contribute as well to the to long-term sustainability. Constant inclusion of women throughout the entire project implementation process, both in the sense of a targeted vulnerable group to address and active stakeholders in the consultation and training processes at the national and local levels ensures their access to the benefits of project. Women would receive trainings on financing plans to address climate change impacts, nature-based solutions implementation and integrated water management to have sufficient decision-making authority in a long-term perspective.
	14. Does the project / programme provide an overview of environmental and social impacts / risks identified, in compliance with the	**No.** An overview is provided that identifies potential environmental and social impacts and risks. A risk screening has identified the outputs that trigger principles of the ESP. However, a	**CAR4/ CAR5/ CAR6:** Annex 7 was updated with regard to more specific gender-related analysis information and intersectional issues (in particular, related to rural women and women employed in agriculture). Also,

	Environmental and Social Policy and Gender Policy of the Fund?	detailed risk and impact assessment is missing. Please note that at the stage of a fully-developed proposal, a detailed Environmental and Social Impact Assessment is expected. The findings of the assessment need to be evidence-based and should be substantiated. In addition, risks and adverse impacts need to be identified and assumptions in the risk assessment need to be stated and justified. Annex 6 of the proposal titled "Environmental and social risk screening, impact assessment and environmental and social management plan" only presents level of detail commensurate with a risk screening. **CAR4:** Please provide a comprehensive risk and impact assessment for all 15 principles in compliance with the Fund's Environmental and Social Policy. Please refer to the Guidance document for compliance with the ESP. Principles 4, 5, 8 and 15 should be among those to be further assessed. The proposal suggests that investments under Component 3 are considered category B risk and require management. The remainder of activities are 'soft' in nature and are Category C.	the data on gender-based violence level and underrepresentation of women in government both on national and local level may reveal the lack of access by women to the decision-making processes. Nonetheless, it is important to note that the reliable information is lacking for several important indicators for both countries, such as women's access to assets, including land, in the sources recommended by the Adaptation Fund in its Gender Guidance document. Proposal addresses women as vulnerable category with a particular focus on female migrants, rural women, fisherwomen, women employed in agricultural sector and women-headed households. It also contains "do no harm" assessment and possibilities of "do good" transformative impact through trainings and workshops. The Environmental and Social Management Plan (ESMP), contained in Annex 6 was elaborated to fully ensure compliance with the Adaptation Gender Policy on the implementation stage. Proposal in its Summary of Problems and Need, as well as in Annex 7 provides the analysis of socioeconomic context, including core political, economic and social indicators analysis to illustrate gender balance in societies of both countries. Proposal further addresses gender-differentiated climate risks, such as more vulnerable position of women employed in

		CAR5: Please revise this categorization after addressing CAR6 above. The Gender Policy of the Fund requires a comprehensive gender analysis that takes intersectionality into account in the form of a gender assessment, on the gender-differentiated impacts of climate change as well as the needs and capacities for action of different sub-groups of men and women by acknowledging factors that may, in combination with gender, exacerbate vulnerability. These factors could be age, disability, ethnicity, race, economic status or others. It also requires in-depth consultations to be carried out as part of the project development process. **CAR 6:** Annex 7, Gender Baseline Assessment, is a document that consists of two pages of text and one-page table. With roughly one page per country, the information presented falls markedly short of the basic expectations outlined in the updated policy and guidance document. This document is presented as evidence towards meeting the Gender Policy of the Adaptation Fund. Please refer to the linked document and prepare a substantial Gender Assessment and Plan document **such that all the key guiding questions** in	agriculture, lack of women in environment-related decision-making processes and lower women's adaptive capacities due to patriarchal system and gender-stereotypical roles in assessed countries. Finally, proposal provides in the Annexes 6 and 7 detailed indicators on women consideration during the implementation process through guaranteed number of female participants, stakeholders, etc.

		the guidance document mentioned above are fully addressed. Furthermore, this information should be consolidated and constitute a standalone annex, while being reflected throughout the proposal. Moreover, the proposal and Gender annex should be fully consistent.	
	15. Does the project promote new and innovative solutions to climate change adaptation, such as new approaches, technologies and mechanisms?	**Yes.** Technologies including rainwater harvesting as well as Early-Warning Systems are innovative in their rollout to new communities and regions. Further, the shared sea level rise issue is potentially tackled on a regional level through the regional management and scaling of adaptation measures through component 4. The programme also gives special attention to enabling the urban migrants and their families to contribute to and benefit from the planned measures to address climate change adaptation.	No further clarification required.
Resource Availability	1. Is the requested project / programme funding within the funding windows of the programme for regional projects/programmes?	**Yes.**	No further clarification required.
	2. Are the administrative costs (Implementing Entity Management Fee and Project/	**Unclear.** **CAR7**: Please revise budget and administrative costs to ensure that	The administrative costs (Implementing Entity Management Fee and Project/ Programme Execution Costs) are below 10 per cent of the programme for

	Programme Execution Costs) at or below 10 per cent of the project/programme for implementing entity (IE) fees and at or below 10 per cent of the project/programme cost for the execution costs?	figures are reported consistently in whole numbers throughout the document, i.e., in the detailed budget, the disbursement table, and in the components.	implementing entity fees and below 10 per cent of the programme cost for the execution costs. **CAR7**: The budget and administrative costs have been checked to ensure that figures are reported consistently in whole numbers throughout the document, i.e., in the detailed budget, the disbursement table, and in the components.
Eligibility of IE	1. Is the project/programme submitted through an eligible Multilateral or Regional Implementing Entity that has been accredited by the Board?	**Yes.**	No further clarification required
Implementation Arrangements	1. 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	**Yes.** Governance arrangements to implement the programme are appropriate, including Programme Advisory Committee and Regional and National Technical Advisory Committees. Regional programme activities will be executed by the Tehran Convention Interim Secretariat as part of the UN Environment Programme. Clear responsibilities are delineated for oversight and delivery of components.	**CR8:** The proposed Programme Advisory Committee, Regional and National Technical Advisory Committees will be assembled in ways that are gender-responsive in the existing socio-cultural contexts of both the Republic of Azerbaijan and the Islamic Republic of Iran. Moreover, the Teheran Convention Interim Secretariat has paid particular attention to gender responsiveness in the regional coordination mechanisms.

	implementing entities (NIEs), been considered, and included in the management arrangements?	**CR8**: Please clarify specifically how the proposed Programme Advisory Committee, and Regional and National Technical Advisory Committees, are assembled in ways that are gender responsive in the existing socio-cultural context.	In the Republic of Azerbaijan and the Islamic Republic of Iran, programmes and policies addressing gender responsiveness require an understanding of the existing socio-cultural context and the unique challenges faced by women and girls. National project components and budget foresee particular attention to the gender expertise and monitoring and providing recommendations for the design of gender sensitive green and public space. Budget plan also includes a position of the M&E Officer with particular attention to the gender compliance, and the overall M&E strategy of the project will be in compliance with the Adaptation Fund M&E Guidelines and Gender Policy. Programme Manager, Project Team and UN-Habitat shall submit reports on the Gender policy compliance of the project on the annual basis. In the Republic of Azerbaijan, traditional gender roles and cultural norms have limited women's participation in the workforce and decision-making processes. Women often face discrimination and are underrepresented in leadership positions. To be gender-responsive, the programmes will pay particular attention to women's participation in the project team, steering and technical advisory committees as

			well as in the recommendations for project priorities and responses to vulnerable groups. Women's economic empowerment is to be promoted to address barriers to women's participation in the workforce and increase their representation in decision-making processes. In the Islamic Republic of Iran, traditional gender norms, coupled with strict social and legal restrictions, have limited women's opportunities, access to education, employment, and political participation, and are often subject to gender-based violence. To be gender-responsive, in the Islamic Republic of Iran, the programmes will work to address inequalities and promote women's rights, including their right to participate in the workforce, access education, and reduce gender-based violence. In both countries, it is important to engage with local communities, including women's organizations and civil society groups, to better understand the unique challenges faced by women and girls, and to ensure that programs and policies are tailored to meet their needs and address the root causes of gender inequality. Additionally, it is crucial to involve women and girls in the design and implementation of programmes and

			policies to ensure that they are culturally and socially relevant, and to empower them to lead the way towards gender equality.
	2. Are there measures for financial and project/programme risk management?	Not clear. The proposal identifies some of the major risks and measures for their mitigation and monitoring. **CR9**: Please clarify through what arrangements the Monitoring and Evaluation Officers will monitor the status of financial and project management risks, including the frequency of their monitoring and their escalation channels.	**CR9**: The Monitoring and Evaluation Officers employed by the programme will monitor the status of financial and project management risks. The frequency of the monitoring will be agreed upon with the Steering Committee as well as escalation channels outlined with the Adaptation Fund, UN-Habitat as implementing entity and the respective executing entities UNEP and IOM. Monitoring the status of financial and project management risks involves regularly assessing and monitoring the risks, triggering escalation procedures when necessary, and documenting and tracking the risk management activities. The frequency of monitoring and tescalation channels should be clearly defined and communicated to all stakeholders.
	3. Are there measures in place for the management of for environmental and social risks, in line with the Environmental and Social Policy of the	**No.** The proposal identifies some of the major environmental and social risks and proposes measures for their management. However, the relevant table (Annex 6) contains basic information and is incomplete. Whole	**CAR8**: A revised Environmental and Social Management Plan has been provided in Annex 7. The Plan co tains substantial information and logic regarding justification of risk (or lack thereof), along with clearly allocated roles and

	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.	sections are incomplete, for example Principle 6 on Labour Rights, where several statements are made without substantiation or further explanation. This is also the case for a number of other principles. Please note that the ESMP will need to be revised after addressing **CAR4** above. In the case of Principle 5, it is not sufficient to draw "attention to how women are disproportionately affected by heat, drought and flooding risk" and "how to ensure they benefit from the measures, including the EWS, public green spaces and improved water access will be emphasized throughout implementation." These issues should already be reflected in the project design, with actions specifically designed to address the disproportionality of impacts and access to benefits. Furthermore, the measures proposed are minimal and there is not a clearly defined and detailed plan that outlines responsibilities for monitoring these risks and managing them throughout project implementation. **CAR8**: Please provide a revised Environmental and Social Management Plan after addressing **CAR4**. The Plan should contain substantial information and logic regarding justification of risk (or	responsibilities for its implementation and supervision. The monitoring and reporting section has been enriched with related M&E functions supporting opportunities for stakeholder consultation and adaptive management throughout implementation.

		lack thereof), along with clearly allocated roles and responsibilities for its implementation and supervision, includes opportunities for stakeholder consultation and adaptive management throughout implementation.	
	4. Is a budget on the Implementing Entity Management Fee use included?	**Yes.**	No further clarification required.
	5. Is an explanation and a breakdown of the execution costs included?	**Yes.**	No further clarification required.
	6. Is a detailed budget including budget notes included?	**Yes.**	No further clarification required.
	7. Are arrangements for monitoring and evaluation clearly defined, including budgeted M&E plans and sex-disaggregated data, targets and indicators, in compliance with the Gender Policy of the Fund?	**Yes.**	No further clarification required.
	8. 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.**	No further clarification required.

	9. 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?	**Not clear.** The results framework is presented, however this question will be considered after all the CARs and CRs in this review are addressed. **CAR9**: Please ensure the project results framework includes the core impact indicator "Number of beneficiaries including estimations for direct and indirect beneficiaries."	The programme's results framework aligns with the AF's results framework. The core outcome indicator from the AF's results framework has been added to the project document as advised in CAR9. **CAR9**: The AF core impact indicator "Number of beneficiaries including estimations for direct and indirect beneficiaries." has been added to the project results framework.
	10. Is a disbursement schedule with time-bound milestones included?	**Not clear.** A disbursement schedule has been included, however there are inconsistencies in the ways that the funding requested for project components and management fees is presented. Figures must be adjusted to be rounded to total dollar values and reported consistently throughout. **CAR10:** Please ensure that requested funding for all outputs and components are rounded to whole numbers and add up in the components table, budget, and disbursement table.	The disbursement schedule has been revised to ensure that inconsistencies in the ways funding are going to be requested for project components and management fees are presented. Figures have been adjusted to be rounded to total dollar values and reported consistently throughout. **CAR10:** Funding for all outputs and components is rounded to whole numbers and add up in the components table, budget, and disbursement table.

REGIONAL PROGRAMME PROPOSAL

PART I: PROJECT/PROGRAMME INFORMATION

Title of Programme:	Urbanisation and Climate Change Adaptation in the Caspian Sea Region
Countries:	Republic of Azerbaijan and Islamic Republic of Iran
Thematic Focal Area:	Urban Development, Coastal Zone Management, Disaster Risk Reduction and Early Warning Systems, Water Management
Type of Implementing Entity:	Multilateral Implementing Entity (MIE)
Implementing Entity:	United Nations Human Settlements Programme - UN-Habitat
Executing Entities:	United Nations Environment Programme – UNEP; International Organisation for Migration – IOM United Nations Human Settlements Programme – UN-Habitat
Amount of Financing Requested:	14 Million US Dollars
Project Duration:	4 years

Figure 1. Urbanization at the Southern and Western shores of the Caspian Sea (source: NASA)

1. Programme Background and Context

1.1. Project Summary

The proposed regional programme's main objective is to enhance climate change adaptation and resilience of local communities in the Republic of Azerbaijan and the Islamic Republic of Iran while fostering the necessary capacities and knowledge throughout the Caspian Sea region.

The programme is structured around the following four components:

(1) Climate change adaptation planning at the Caspian Sea regional level;
(2) Climate change adaptation planning at national level in the Republic of Azerbaijan and the Islamic Republic of Iran;
(3) Implementation of transformative and catalytic projects at national, city and community level addressing urban resilience and climate change adaptation in the Republic of Azerbaijan and the Islamic Republic of Iran; and
(4) Urban resilience, climate change adaptation – partnerships, institutional, legal, research cooperation and knowledge at the Caspian Sea regional level.

1.2. Summary of Problems and Need

1.2.1. Caspian Sea Region Introduction

Increasingly, communities along the Caspian Sea shores have been affected by severe climate change hazards, including sea level variation, increased heat, intensified floods and acute droughts.

Simultaneously, urbanization along the Caspian Sea shores particularly in the Republic of Azerbaijan and the Islamic Republic of Iran has accelerated, hereby contributing to the reduction of biodiversity, increasing water consumption and water stress and increasing land conversion. The urban heat island effect is also a result of these combined climate change and urbanization phenomena. Hence, the Governments of the Republic of Azerbaijan and the Islamic Republic of Iran have requested the support of UN-Habitat - in conjunction with the UN system - in addressing the combined impacts of climate change, urbanization and the unique environmental challenges faced by the Caspian Sea region, with a specific focus on vulnerable communities.

Climate change is affecting different sectors of society and the economy including fisheries, agriculture and infrastructure as well as the livelihoods of people working in those sectors. In addition, expected increases in shipping activities and tourism will most likely put further pressure on the environment in the future. For example, marine litter in the Caspian Sea is a major issue, though it receives little attention, and there is no reliable information on the volumes of debris discharged into the region's coastal or marine environment.

Figure 2. Caspian Basin (source: www.gride.no/resources/5732)

Climate change and its effects, including sea level fluctuations, have a significant negative impact on the Caspian Sea region's environment. The existing climate change scenarios do not give a definite answer to the question of sea level change direction. In addition, the volume of greenhouse gas emissions is increasing in the Caspian littoral states, where energy, industry, agriculture and waste are the main contributing sectors. The energy-related sector, including transport, is the largest source of emissions, accounting for 73% of total emissions in the Republic of Azerbaijan (IEA, 2021) and 90% in the Islamic Republic of Iran (Department of Environment, 2015). Nevertheless, climate change forces these countries to adapt to changing conditions, which sometimes require significant capital and operating costs.

The Caspian Sea is the world's largest inland water body confined by five countries: Republic of Azerbaijan, Islamic Republic of Iran, Kazakhstan, the Russian Federation and Turkmenistan. It is climatically diverse encompassing the Volga and Ural River basins in the North, semi-arid and hot arid plains in the east, and humid Caucasus and Elburz mountains in the south-west. The endorheic Caspian Sea spreads around 1,200 km from north to south with an average width of 320 km and covers a region of 390,000 km² with two deep basins occupying its central and southern areas, leading to horizontal differences in temperature, salinity, and ecology. The water body plays an important role in atmospheric processes, regional water balance as well as microclimates linked to northern Atlantic fluctuations in atmospheric air pressure and variations affecting temperatures, moisture and winter storms across Europe including the Volga basin and rainfall over the Caspian basin. Recent surveys show that anthropogenic influences are negatively impacting the region's biological diversity, with some species of vegetation and fauna on the verge of extinction and listed as strictly protected (Goodman and Dmitrieva, 2016)

Being a closed water body, considerable fluctuations of the Caspian Sea water level are an intrinsic property. While such fluctuations are normal in this sea, global warming has altered its natural rhythm, resulting in dry, warm years for the 1996 – 2015 period, with 2006 – 2015 being especially unfavorable years. The faster the change in sea level occurs, the more severe its consequences. In the Caspian Sea, increases in the water temperature and air temperature over the water are of great importance, causing evapotranspiration. Based on the suggestions made by The Intergovernmental Panel on Climate Change, Roshan et al. (2012) states that there is a high probability that during this century, temperatures in the Caspian Sea basin will continue to increase on average. The average air temperature increases for the last 50-year and 10-year periods show a slight decrease and are negative for the 2012 – 2016 five-year period, indicating that the warming of the Caspian Sea climate has slowed in recent years (CASPCOM, 2018).

1.2.2. Republic of Azerbaijan

The Republic of Azerbaijan is 86,600 km^2 of territory with a population of approximately 10 million people. Four of the five geographical regions in the Republic of Azerbaijan are mountainous and the fifth is lowlands including the coast of the Caspian Sea which is situated about 28 m below sea level.

The climate in the Republic of Azerbaijan covers 9 of the 11 main climatic types on Earth are present in this country, however, the subtropical climate predominates. Temperature is hot in summer in flat areas (which includes the Caspian Sea shores), whereas in the mountainous areas summer is cooler and winter is freezing. The highest recorded temperature is +46° C, whereas temperatures can go as low as -32°C. Humidity is low and varies across the country. Annual precipitation is less than 400 mm in 65% of the country.

In all the plains, snow does not remain long and has not been observed in many years. The areas, experiencing the most snowfall relatively, in the Republic of Azerbaijan are on the south slopes of the Great Caucasus. The highest peaks of the Great Caucasus are covered in snow all year round. Average wind speeds typically range 0.5m/s, however, in the offshore areas of the Absheron peninsula it is 6-8 m/s.

The country's flora includes 5,000 plant types of 176 families and 1,114 species. The flora of the Republic of Azerbaijan is much richer relative to other republics of the South Caucasus. About 66% of the species growing in the whole Caucasus can be found in the Republic of Azerbaijan. The fauna of the Republic of Azerbaijan includes 100 species of mammals, 360 species of birds, 61 species of reptiles, ten species of amphibians, 100 species of fish, and more than 15,000 species of insects.

Republic of Azerbaijan shares a land border with five countries including the Islamic Republic of Iran and Russia that are also Caspian Sea littoral countries as well as Georgia, Armenia and Turkey.

The main dominating field of the country's economy is oil and gas extraction from the offshore of the Caspian Sea. The Baku-Tbilisi-Jeyhan oil pipeline and TANAP Gas pipeline are the essential contributors to the country's state budget. Since 2015, the government-initiated reforms and intensive activities work towards diversification of the economy through the development of competitive fields of non – oil sectors of economy - such as agriculture, tourism, services, etc.

Based on the studies conducted by the World Bank, urbanization in Republic of Azerbaijan was almost stable for about 40 years, e.g., 1960 – 1990, fluctuating around 52-53 %. After the collapse of the former Soviet Union and gaining independence, the population in cities has increased in the past 25 years, due to migration, mainly rural to urban which has resulted in over 56% of the population now living in cities. Baku, the capital and largest city is located on the Caspian Sea coast and the figure below shows the growth of Baku and other urban areas along the coast of the Caspian Sea region.

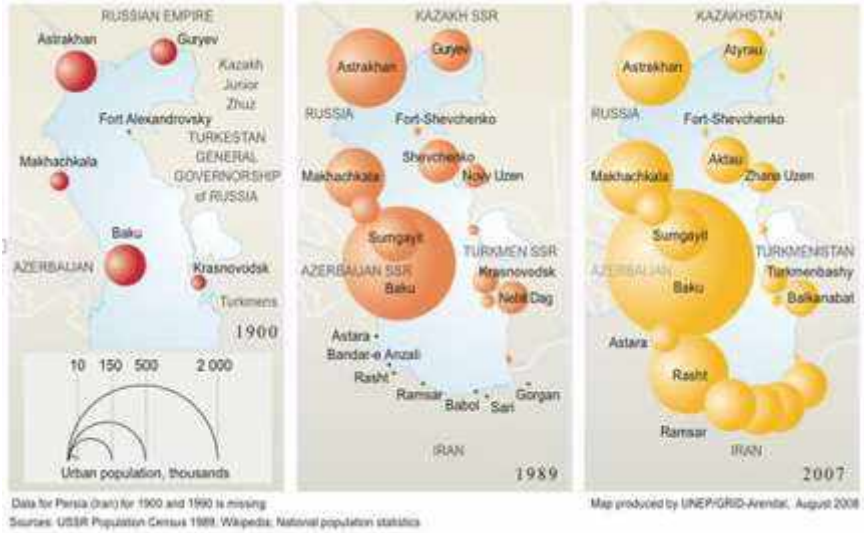


Figure 3. Urbanization on the Caspian Sea Shores 1900-2007

1.2.3. Islamic Republic of Iran

The Islamic Republic of Iran has an area of 1.6 million km2 and a population of more than 79 million based on the 2016 census. The country's climate is primarily arid and semi- arid, with the exception of parts of western Iran and the northern coastal areas of the Caspian Sea which has more annual rainfall than the rest of the country (Department of Environment, 2017). The Islamic Republic of Iran borders Armenia, Republic of Azerbaijan, Turkmenistan and Caspian Sea on the north, Afghanistan and Pakistan on the east, the Oman Sea and Persian Gulf on the south and Iraq and Turkey to the west.

Over 70% of the population live in cities and the three provinces adjacent to the Caspian Sea (Gilan, Mazandaran and Golestan) have a population of 7.5 million people.

Approximately 8,200 plant species have been recorded in the Islamic Republic of Iran of which around 20% are considered endemic and there are 521 species of birds, 194 mammals, 203 reptiles, 22 amphibians and 1,080 species of fish (Department of Environment, 2016).

The total coastal area of the Caspian Sea in the Islamic Republic of Iran is 6499.7 ha, of which about 17 percent is built-up area, 72.68 percent is open and green areas, and 11.18% is water bodies. The rationale of this computation is depicted in the Figure 4 (Islamic Republic of Iran, 2016).

Figure 4. The coastal area visual definition (Islamic Republic of Iran, 2016)

The Caspian coastal area on the Islamic Republic of Iran's side provides a habitat for particular species such as Caspian seals, birds, jackals, fish Sturgeon, and biceps. Land use change,

environmental deterioration, toxins, and grazing livestock have all posed threats to their ecosystems in recent years. The coastal area's economy is focused on agriculture, industry, and tourism. The population is spread along the coasts, resulting in such unbalanced settlement clusters. Ten clusters are detected in ICZM studies (Iran's Ports and Maritime Organization, 2021), some of which are dense and expanding. In the following figure 5, the clusters are indicated as Dense and growing urban and rural area (red), Dense and concentrated rural area (yellow), Dense and concentrated urban area (purple), Dense and populated rural area (light blue), Scattered urban area (orange), Scattered urban area (blue), Scattered urban-rural area (green).

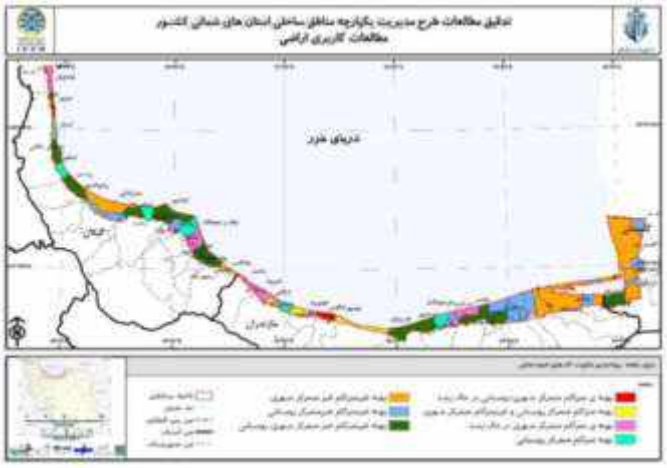


Figure 5. Settlement's clustering in ICZM (Iran's Ports and Maritime Organization, 2021)

1.2.4. Regional Environmental agreements and National Parks in the Republic of Azerbaijan and the Islamic Republic of Iran

Convinced of the need to address the rapidly emerging challenges to the health of the Caspian Sea, the five riparian states in 1995 agreed to develop the Caspian Environment Programme (CEP) aiming to halt the deterioration of the environmental conditions of the Sea and promote sustainable development in the area. In a joint venture with UNEP, UNDP and the World Bank, and with the financial support by the GEF, the programme was launched in 1998. After extensive negotiations the programme became part of the Framework Convention for the Protection of the Marine Environment of the Caspian Sea, a legal instrument adopted by the countries in Tehran, 4 November 2003 and entered into force on 12 August 2006. In times of rapid increase of natural resources use in the Caspian Sea, it was the first legally-binding agreement between the Caspian countries and provides an important framework for cooperation on environmental policies in the region. The Tehran Convention is serviced by an interim Secretariat which is hosted by the UN Environment Europe Office.

It serves as an overarching governance framework which lays down the general requirements and the institutional mechanism for environmental protection and sustainable development in the Caspian Sea region. Under its umbrella the Caspian littoral states developed additional Protocols on priority areas of common concern:

- Protocol Concerning Regional Preparedness, Response and Co-operation in Combating Oil Pollution Incidents (Aktau Protocol);
- Protocol for the Protection of the Caspian Sea against Pollution from Land-based Sources and Activities (Moscow Protocol); and
- Protocol for the Conservation of Biological Diversity (Ashgabat Protocol); • Protocol on Environmental Impact Assessment in a Transboundary Context.

A fifth Protocol on monitoring, assessment and information exchange is under negotiation; its provisions will commit the riparian states to secure regular updating of the web-based Caspian Environment Information Center, State of the Environment reporting, and public access to information.

Figure 6. National parks and protected Areas on the Caspian Sea shore in the Republic of Azerbaijan and the Islamic Republic of Iran

There are three National Parks in the Republic of Azerbaijan with marine coastal ecosystems located in target regions, namely (i) Gizilaghaj National Park, designated as Wetland of International Importance (Ramsar Sites), is home to millions of migratory birds; (ii) Absheron National Park aims to protect the Caspian seals; and (iii) Shirvan National Park is home to gazelles in the region. Apart from them, Hirkan National Park is located close to the coast on the southern borders of Republic of Azerbaijan. It is worth mentioning that the Hirkan National Park, famous in the South Caucasus for its unique natural forests rich in relict and endemic species, has been jointly transnational nominated by the Republic of Azerbaijan and the Islamic Republic of Iran for inclusion in the "UNESCO World Natural Heritage List". In the Islamic Republic of Iran, several protected areas have been registered under the Ramsar Convention on Wetlands: (i) Anzali Wetland located in an ecologically and economically important region at the South West of the Caspian is largely surrounded by agriculture, natural forests and rangelands; (ii) Bojagh National Park sprawls across 3250 hectares on the Sefid Rud river delta and is a no-hunting zone and a bird watching destination; (iii) Gorgan Bay and Miankaleh Wetlands are considered global Biosphere Reserves, hence, the most important protected areas along the southern coast of the Caspian Sea; and (iv) Gorgan Bay and Miankaleh wetland directly face the fluctuations of the Caspian Sea level. Survival of this coastal wetlands depends on permanent water exchange between the Caspian and the Gorgan Bay.

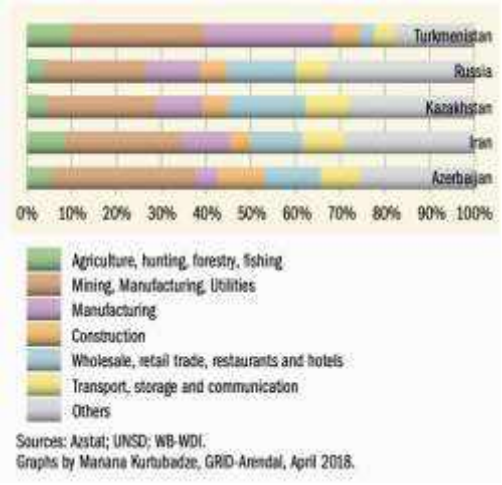


Figure 7. GDP of the Caspian littoral states in 2006 - 2016 (source: Teheran Convention (2019), Caspian Sea – State of Environment)

1.2.5. Main Climate Change Hazards

According to the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment report, there is a tendency for warming in the countries of North and Central Asia that border the Caspian Sea. In summer, warming is observed in the central regions along with a decrease in the amount of precipitation. Warming in these areas is higher than the global average, and, according to modelling predictions, extreme precipitation is likely to occur more often.

It should be noted that modelling the changes in these regions is challenging, due to a lack of observed data and difficulties for models to consider the influence of mountain landscapes when calculating climatic parameters. It is assumed that the duration, intensity and frequency of thermal waves are likely to increase in these areas, and there is a high probability that temperatures in the Caspian region will continue to rise during this century (IPCC, 2013).

Adaptation to climate change in urban areas is vital for cities to remain livable, functional and prosperous in the future. In this regard, adaptation is the process of adjustment to the actual or expected climate hazards, seeking to reduce the negative impacts or exploit beneficial opportunities. Reducing vulnerabilities and building resilience of both people and ecosystems is also critical to building adaptive capacity and adaptation to climate change that aligns with national development objectives and local priorities.

Cities need to act now to avoid or reduce weather-related deaths (e.g., due to heat waves) and economic losses from climate-related extremes in the future. The projected increase in frequency and intensity of climate-related hazards – such as flooding, heatwaves, and droughts – requires responses not only from national governments but also from local authorities. Adaptation is a strongly localized process due to particular geographical, socio-demographic and economic characteristics of the target areas, and local governments are best placed to steer and address climate adaptation in urban areas. Adapting to climate change at the local level – through avoidance or reduction of risks – makes economic sense. Furthermore, cities that are safe from climate hazards and have a pleasant urban environment, for instance through provision of public green spaces, tend to attract and retain more investment and skilled workforce.

For the purpose of this regional programme, the following climate related hazards were examined in relation to climate change and urbanization processes, and key interventions will be implemented in selected locations in order to address those and provide an evidence base for further action in these areas, nationally and regionally.

- **Sea level fluctuations**

The Caspian Sea is a complex system of mutual influence of geological, hydro climatic, anthropogenic and spatial factors (Ministry of Ecology and Natural Resources, 2010). Being an endorheic water body, considerable fluctuations of the water level are inherent. The Caspian Sea Level (CSL) has undergone variations of more than 3 m during the past century which drastically affected the lives of coastal people, agriculture activities, fisheries, economies and the ecosystem of the countries which share the Caspian Sea (Republic of Azerbaijan, The Islamic Republic of Iran, Kazakhstan, Turkmenistan and Russia). In the 20th century, the fastest sea level decline was observed between 1931 and 1940. During this period, it amounted to 1.7 m. Sea level rise was the fastest between 1978 and 1995, amounting to about 2.5 m. Since 1996, sea level has been declining. A particularly noticeable drop (almost 1 m) was noted between 2006 and 2015. In 2016 – 2017, sea levels stabilized (Interim Secretariat of the Framework Convention for the Protection of the Marine Environment of the Caspian Sea (Tehran Convention), 2020). Evaporation due to increased temperature contributed to seawater decline as well as the combined effects of precipitation and river discharge changes.

Future CSL is directly affected by changes in its water budget (precipitation minus evaporation over the catchment) which is linked to the projected impacts from anthropogenic global warming as well as the water withdrawal from river sources. Unfortunately, this data is missing from all five of the Caspian Sea littoral countries which makes it difficult to predict future CSL, however indications of population growth and increased water consumption suggest increased water withdrawal from source rivers, such as the Kura River. In addition, increasing evaporation over the lake surface, due to warming, is likely to lead to a gradually declining sea level in the Caspian Sea. Such a CSL decline would have a significant impact on the Caspian environment, especially over the northern Caspian shelf which presently has a depth of about 5 m. (Nadini-Weiss et al, 2019)

Increased salinity from sea level fluctuation also poses a threat to biodiversity, leading to soil degradation, machinery corrosion, public health risks and subsequent loss of livelihoods along several hundred kilometers around the former coastline.

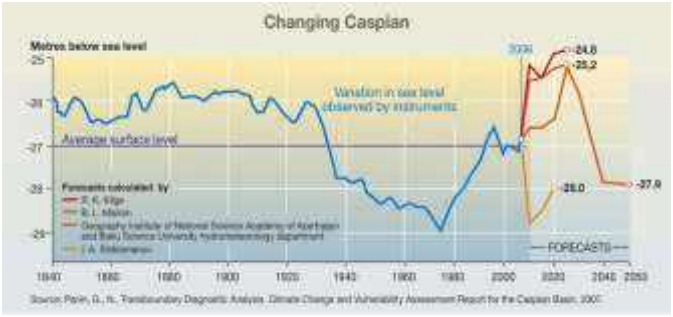


Figure 6. Changing sea levels in the Caspian Sea

Although most projections are for sea level fluctuation and decrease, there is also the potential of sea level rise, even if only for brief periods. Figure 8 shows potential inundation areas in Republic of Azerbaijan and the Islamic Republic of Iran with 1-, 2- and 5-meters sea level rise and the inherent challenges of planning for both sea level decrease and sea level rise.

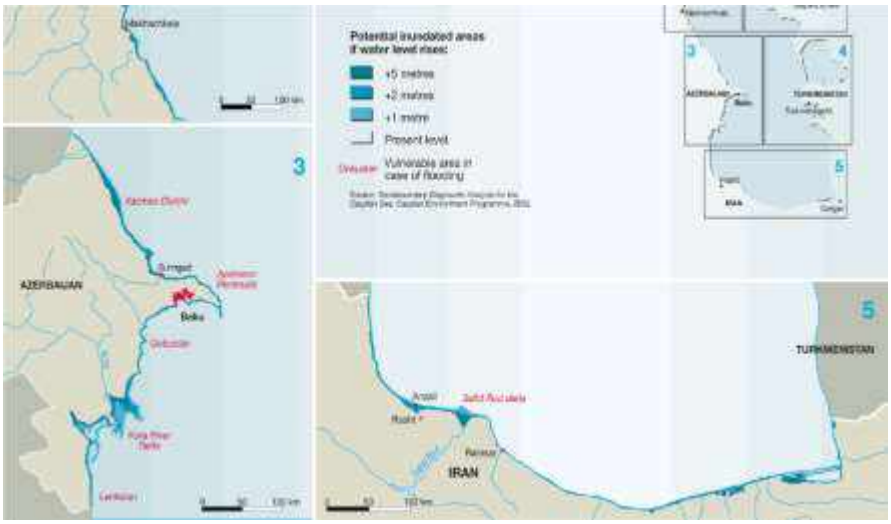


Figure 7. Potential inundation area should Caspian Sea Level increase by 1, 2 or 5 meters

- **Increased temperature (heat)**

In the Caspian Sea region, there have been increases in both air temperature as well as the Caspian Sea water temperature. Any increase in water temperature is especially significant, as it decreases the area of winter ice cover in the Northern Caspian Sea, weakens vertical water circulation in the deep sea, increases evaporation and activates chemical and biological processes (Interim Secretariat of the Framework Convention for the Protection of the Marine Environment of the Caspian Sea (Tehran Convention), 2020). In the last quarter of the twentieth century, the air temperature over the Caspian

Sea water has increased by 0.7–0.8°C and the surface water layer increasing by 0.4 0.5°C (CASPCOM, 2018). Over the past 100 years, the average yearly temperature in the territory of Republic of Azerbaijan has risen by 0.4-1.3°C. In the Republic of Azerbaijan, average annual temperatures could increase by 2.4°C by 2050 and 4.5°C by 2090 (under high emission scenario RCP8.51) (climateknowledgeportal.worldbank.org, s.d.). In the Islamic Republic of Iran, warming to date has been between 1.5-1.8°C in the Caspian Sea coastal region and is expected to warm between 2°C and 5.9°C by 2100 depending on emission scenarios (carbonbrief.org, 2018). Increased temperatures in countries which already had high range temperatures above 40°C are a significant

threat to human and animal health and the urban heat island effect exacerbates the impact of heat in urban areas.

- **Floods**

Extreme weather patterns are common in the Caspian Sea region, increasingly due to climate change. Changes in precipitation are manifested not only in an increase or decrease in their amount, but also in the frequency of intense precipitation, which in most cases are accompanied by dangerous phenomena such as hail, floods, mudflows etc. In the Republic of Azerbaijan, it is estimated that average annual flood damages in the region will amount to 18 - 25 million USD for infrastructure alone (adaptationundp.org, 2015). The likelihood of floods is also on the rise (USAID.gov, 2018). Flash floods pose a significant threat to the population of the Republic of Azerbaijan and the Islamic Republic of Iran, particularly in the basins and mouth of transboundary rivers of Kura and Aras in Republic of Azerbaijan. In 2003, economic loss triggered by floods at the Kura River mouth in the Republic of Azerbaijan amounted to 65 million USD (Imanov et al, 2009). In 2010, over 70,000 people were affected by a flood near the confluence of the Kura and Araz rivers, and tens of thousands of homes were destroyed. The main reasons for the magnitude of loss caused by flash floods in the Caspian Sea region are related to climate change induced increased rain intensity, bare soil in catchment areas, movable material and steep slopes, in addition to inappropriate agriculture and development practices, deterioration of pasture and forest land (Sharifi et al, 2012). Risk of flooding due to storm surges and sea level fluctuation is present south of Baku, north of Rasht and the Sari and Gorgan coastal areas. In the last decades, the number and strength of floods have risen in small mountain rivers in the territory of Republic of Azerbaijan.

During the cold period of the year, cases of intense precipitation have become more frequent on the Absheron Peninsula, especially in Baku, as a result of which significant damage has been caused to the urban infrastructure, and landslide processes have intensified.

In the Islamic Republic of Iran over the past two decades, floods have affected 11 million people and caused over 2,600 fatalities (Madani, 2014). In August 2001, after heavy rainfall, flash flooding occurred in the Mother-Soo catchment of the Golestan province of the Islamic Republic of Iran, claiming over 300 lives.

- **Droughts**

Against the background of a significant increase in air temperature in large parts of Republic of Azerbaijan especially in the lowlands, there is a significant reduction in precipitation, which leads to drought and creates serious problems in agriculture, ecology, water supply, etc. In Republic of Azerbaijan, the likelihood of severe droughts will rise significantly (The World Bank Group and Asian Development Bank, 2021). The amount of precipitation decreased in the overall territory of the Republic of Azerbaijan during 1991 – 2010 (Ministry of Ecology and Natural Resources, 2010), and calculations according to all scenarios of the General Circulation Model (GCM) forecast an increase of monthly average temperature of up to 1.58°. The Republic of Azerbaijan just came out of a prolonged drought with foreseen impact on agriculture in the coming years. In some parts of the country, crops have been damaged beyond recovery, and inadequate vegetation of summer pastures has negatively impacted the livestock sector. At the same time, it is expected that climate change-related droughts will likely reduce water supply by 23% during the next 3 decades in the Republic of Azerbaijan. The increasing temperature will also cause water losses through evaporation and water shortages for the agricultural sector, which at the same time is expected to increase the volume of irrigation water by 10 - 15% (ibid.). The Islamic Republic of Iran's Third National Communication to the UNFCCC cites that more drought events are expected to occur. The country already faces droughts given its arid and semi-arid climate and there has been an increase in the amount of Consecutive Dry Days (CDD) that resulted in water shortage at national scale. The National Drought Warning and Monitoring Center in the Islamic Republic of Iran found in 2019 that 97% of the population was affected by long-term drought and warned that climate change will increase dry spells (tehrantimes.com, 2019). Given the experience and history with drought, the Islamic Republic of Iran also has rich indigenous knowledge of adapting to drought and water scarcity. The lack of precipitation in arid and semi-arid regions in the Islamic Republic of Iran is also resulting in desertification and dust storms.

1.2.6. Non-Climatic Drivers and Pressures that affect the state of the environment and impacts on people

Urbanization and economic activity along the shorelines of the Caspian Sea have amplified in recent years, with an ever-increasing pressure on the terrestrial, freshwater and marine environment in the area. Three major pressures on the environment have emerged that compound climate change hazards: (1) Land Use Conversion & Ecosystem Degradation (2) Pollution (3) Water Stress. There is an additional factor that increases vulnerability related to the built environment and lack or sub-standard housing and infrastructure. Population densities along the Caspian Sea shorelines are uneven, and most of the population is concentrated in major urban centers in the Republic of Azerbaijan, the Russian Federation and the Islamic Republic of Iran. While the metropolitan area of Baku in Republic of Azerbaijan represents the largest urban agglomeration, the Iranian coastlines have witnessed rapid unplanned urban sprawl. Since 2001, people from rural areas have been increasingly moving to Baku in search of employment opportunities. As a result, rural migrants started to settle in the suburban areas at the fringes of Baku City. Around the same time, the high-income population groups also started building residences in the suburban areas. These processes have resulted in a spatial expansion of the metropolitan area (Allahveranov et al, 2012).

The Iranian coastlines have witnessed rapid unplanned urban sprawl with unbalanced basic urban services as well as poor management of those contributing to pollution of the Caspian Sea coast, extending a threat to both environment and humans alike. Despite variations between the countries, there have been significant impacts of rapid planned and/ or unplanned urbanization, lack of services, increased economic development and higher levels of consumption on land conversion, pollution and quality of life of urban residents.

- **Land Use Conversion and Ecosystem Degradation**

Land use change in the region has resulted in the loss or degradation of cropland and the reduction of biodiversity. Urban sprawl has driven much of this land use change as well as desertification. Figure 9 shows desertification hotspots in the Caspian Sea coastal zone region. The loss of agricultural land affects food security as well as the livelihoods of people working in the agriculture sector. In Republic of Azerbaijan, soil salinization is one of the biggest ecological and geographical challenges. In addition, according to the local experts, most of the pasturelands in the country are now considered degraded. Soil organic carbon (SOC) has declined over time with the intensification of grazing in pastures and the overall degradation of soils, as reported in Babaev et al (2006) and Rasouli-Sadaghiani and Sheikhlou (2016). The Republic of Azerbaijan does not have a soil information system that allows the monitoring of soil health. Monitoring the status of soils is fundamental for achieving land degradation neutrality and ensure the provision of other ecosystem services provided by soils (Ismayilov, 2013).

Figure 8. Regional land degradation with desertification zones

Overloading of pastures and grasslands with animals resulted in degradation of land under pastures (this data is not based on official inventory data: there was no inventory done since 1950). As a result of degradation, the grass cover thinned out significantly, dry grass productivity of winter pastures fell to 0.3-0.4 tons/ha, and severe erosion processes continue being observed. Local experts predict that 60 percent of winter pastures and 70 percent of summer pastures may become unfit for use in future. At present, there is no dedicated policy document or programme on sustainable pasture management in Republic of Azerbaijan. The integrated and cross-sectoral process for land and water management is lacking. In addition, local and national capacity for land degradation assessment and monitoring of salinization and desertification processes to provide accurate and efficient information to farmers and others is missing.

For the Islamic Republic of Iran, the analysis of land use conflicts, and changes from green land use to construction, which shows the reduction of suitable lands for cultivation and forestry, are among the most important results that can be extracted from ICZM studies. The entire coastline area is separated into three categories as seen on figure 10: red denotes a high rate of conflict, yellow represents a medium level of conflict, and green implies a low level of conflict based on provincial land use maps from 2008 and the results of the ICZM plans from 2016. (Iran's Ports and Maritime Organization, 2021).

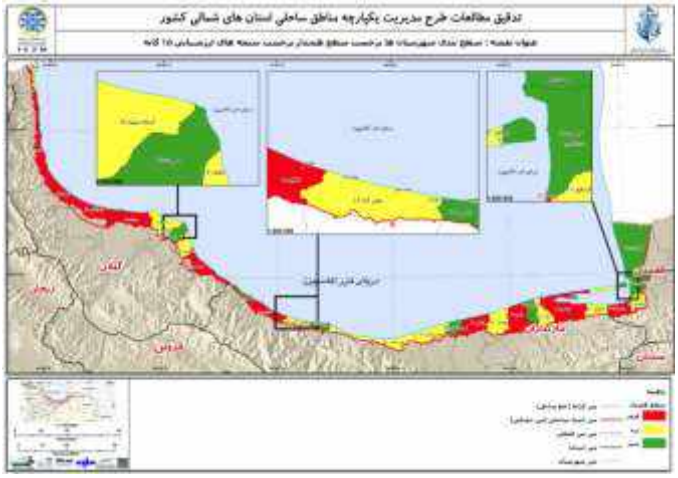


Figure 9. Land use conflict in coastal area (Iran's Ports and Maritime Organization, 2021)

The unplanned urbanization has also resulted in decreasing green space in and around cities which is beneficial for human health and well-being as well as combating urban heat stress.

Marine ecosystems are also being degraded, primarily by overfishing. In the Caspian Sea, all the five major sturgeon species are currently classified as “critically endangered” by the International Union for Conservation of Nature (IUCN) in its Red List of Threatened Species. Overfishing, environmental degradation as well as invasion species such as an exotic comb jellyfish which has impacted on fisheries in the area are all causes of the reduction in fishing stocks. Increased water temperature is also impacting on the biophysical health of the Caspian Sea marine ecosystem.

The Fifth Iranian Fisheries Development Programme, with a focus on developing and strengthening sustainable aquaculture, started in April 2011. With successful implementation of this programme, the final production of aquaculture is expected to increase to 430,150 tonnes in 2014. To achieve this goal, stringent regulations and responsible management of aquaculture is essential. There is an urgent need for all five of the range states of the Caspian Sea to develop a common strategy to rebuild sturgeon stocks.

Other processes are changing the configuration of the land in the region, some of which are natural and some are accelerated by existing land uses. The Azerbaijani coastline has changed as the result of erosion and accumulation processes, a recent study found that in 2016-2021, 8052 ha of land was gained as a result of accumulation processes, 71.47 ha of land was lost as a result of erosion. On Kurdili Island, 623.66 ha of land area increased and 220 ha decreased. The results show that there is a change in the coastline in 2016-2021, and an average of 230 m of coastal movement to the sea and 23.14 m to land.

- **Pollution of Land, Water and Air**

There are various sources of pollutants to the Caspian Sea, including river run-off, precipitation, sewage, discharge from ships and oil and gas facilities, and gas and liquid releases from the seabed. Mining, Manufacturing, and Utilities (which includes oil and gas) is one of the leading sectors across the Caspian Sea littoral states as shown on Figure 11, and contributes to pollution of land, water, and air in the region.

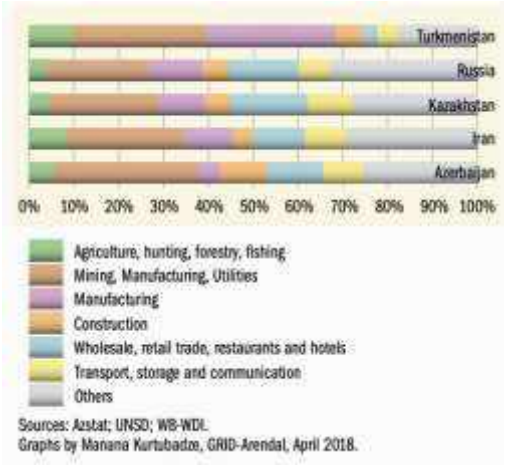


Figure 10. GDP of the Caspian littoral states in 2006 - 2016 (source: Teheran Convention (2019), Caspian Sea – State of Environment)

River run-off predominantly affects the Northern Caspian Sea as this is where the Volga flows into the Caspian Sea and the figure below shows a concentration of copper in this area. Higher rainfall amounts and large urban and industrial conglomerations result in high concentrations of arsenic, mercury and copper on the southern coasts of the Caspian Sea. Wastewater discharge is mainly concentrated on the western and southern coasts, where there are large urban settlements and well-developed industrial and agricultural sectors. River run-off, sewage and atmospheric transport are land-based sources of Caspian Sea pollution. The maps in figure 12 show the issues of arsenic, mercury and copper concentration that affect the sea and coastline in the Islamic Republic of Iran and Republic of Azerbaijan.

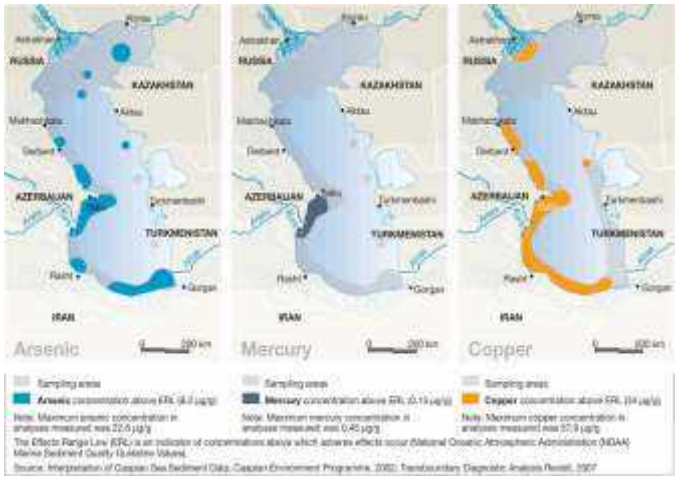


Figure 11. Issues of arsenic, mercury and copper concentration that affect the sea and coastline

In the Republic of Azerbaijan, the area of industrial contaminated soils is estimated to be 33,300 ha, including 11,143 ha contaminated with petrochemistry products, around 11,000 ha under mining products, and 5,000 ha under construction waste (Krasilnikov et al., 2018). Discharge of polluted domestic and industrial wastewater is the main source of pollution in the Caspian Sea from the territory of the Islamic Republic of Iran, including wastewater from Armenia and Georgia into the Kura River (Interim Secretariat of the Framework Convention for the Protection of the Marine Environment of the Caspian Sea (Tehran Convention), 2020).

Pollution of the Caspian Sea from land-based sources in the Republic of Azerbaijan is mostly related to the discharge of unfiltered sewage and polluted wastewater. The Kura River, with traces of pollution by domestic and industrial wastewater from neighboring countries as well as the Republic of Azerbaijan, plays a significant role here. In order to prevent the discharge of untreated sewage into the sea, the Republic of Azerbaijan is undertaking a wide range of investments to modernize major sewage treatment plants and construct state of the art treatment plants. The main sources of polluted water discharged into Baku Bay have been eliminated. In addition, to prevent the sea from being polluted by local sources not connected to the sewage system, modular treatment plants have been installed along the Caspian Sea shores and Absheron peninsula.

Pollution is one of the most important challenges of the Islamic Republic of Iran's coastal area. The ICZM identifies 11 types of ecosystems threatened by pollution including: Formal preserved area (National parks, and etc.), rivers, wetlands registered in Ramsar Convention, biodiversity critical areas, biosphere reserves, sensitive and fragile habitats, lagoons, forests and coastal areas. They are at risk of pollution as a result of the urban and industrial waste disposal systems. Industrial wastewater flows into rivers and ultimately into the Caspian Sea near Mahmoudabad and Bandar-e-Kiashahr, although urban sewage is the main source of pollution in Astara and Bandar-e-Torkaman. The Ministry of Energy in the Islamic Republic of Iran found that around 85% of cities do not treat their domestic wastewater, discharging it into land and rivers (Department of Environment, 2017). Solid waste is another pollutant that poses a threat to all four communities due to a lack of an integrated waste management system.

The solid waste collection system in the Islamic Republic of Iran's northern cities is poorly integrated due to the close proximity of settlements. The situation in city centres is significantly better than in periurban and rural areas. Another significant difficulty with the waste management system in northern cities is waste disposal areas, which are seriously affecting the ecosystem in some places along the coast (Astara), in other forested areas (Mahmudabad), and in some cities near rivers (Bandar-e-Kiashahr).

The generation and poor management of waste deteriorates the quality of seawater. The most common means of disposal for solid waste remains landfill sites, where there are limited opportunities to process valuable secondary materials. The generation of both industrial and municipal waste is associated with overall economic development and therefore varies within the region. The Caspian littoral states have introduced urgent measures to solve the waste accumulation issue, such as building waste incineration plants to transform household waste into energy (as in The Republic of Azerbaijan, where a solid household waste incineration plant with fourth generation technology was commissioned in 2014).

Marine litter in the Caspian Sea is also a key issue and the result of inadequate management of municipal waste, coastal tourism, fishing, shipping and improper disposal of hazardous waste and fluctuations in sea level exacerbate marine litter from the land-based sources.

In addition to the above mentioned, air pollution has been highlighted by all Caspian littoral states with transport and industrial emissions being the main sources of air pollution, and with industrial areas and urban centers as the main concern in terms of air quality. In general, the air quality of large cities along the Caspian Sea's coast is critical. Like other regions, environmental pollution in the Caspian Sea is having a negative impact on both the littoral states and individuals.

- **Water Stress**

Water scarcity and water stress is another pressure on the environment in the region. Unplanned urbanization impacts on water resources as land is converted from permeable to impermeable surfaced resulting in reduced water filtration that results in both increased surface runoff water and subsoil water scarcity. Agriculture also has an impact on water usage. The hydrological regime of the Volga Delta is affected by water consumption for irrigation, industrial and municipal water supply. The growth of water consumption in the basin continued until the beginning of the 1990s, when the development of waterintensive sectors of the national economy significantly slowed down (Gorelits et al, 2018).

The Republic of Azerbaijan has limited water resources as surface water resources are largely from rivers, the majority of which originate in the territory of neighboring countries and groundwater suitable for use is limited and unevenly distributed (Ministry of Ecology and Natural Resources, 2021). The Republic of Azerbaijan relies on the Kura-Araz basin for 70% of its drinking water (Red Cross Red Crescent Climate Centre, 2021).

Over 90% of irrigation and collector-drainage schemes consist of open-type earth channels, water losses are high, mineralized phreatic water rise to the cultivation layer and surrounding areas become

salinized. Moreover, most common irrigation in farming is traditional surface irrigation. Utilization of water-saving modern techniques such as drip irrigation or sprinkler irrigation is limited. It is worth noting that some of the lands that are suitable for irrigated agriculture have been exposed to salinization. Around 17 percent of irrigated lands are slightly saline, 8.4 percent moderately saline, and 3.3 percent highly saline (Azerbaijan Melioration and Water Economy OJSC as of January 1, 2016). Currently, 495,166 hectares of irrigated land in the country or 5.9% of the territory of the country require ameliorative measures. The saline soils are located mainly on the coastal plain of the Caspian Sea, in the Kura-Araz depression and at the Salyan, Mugan, and Mil plains.

In the Islamic Republic of Iran, the dependency on ground water has increased in recent years as a result of rising population expansion and decreased rainfall. It is becoming a new problem in the Islamic Republic of Iran's north coastline area, notably in the central and eastern parts. The per capita consumption of water was estimated to be 250 liters per day (Department of Environment, 2017). Given depleting groundwater levels, drying lakes, limited water supply and extreme events, water crises in the Islamic Republic of Iran are an acute concern (Madani, 2014).

- **Inadequate Housing, Infrastructure and Service Delivery**

In the Republic of Azerbaijan, most of the region's public infrastructure was built during the Soviet era when large, comparatively inefficient irrigation and water distribution systems were the norm. Infrastructure development is focused on industrial infrastructure, service infrastructure to support tourism and transportation infrastructure (Ministry of Ecology and Natural Resources, 2021). The port in Baku is a critically important infrastructure in the region for economic development.

The housing and infrastructure along the Islamic Republic of Iran's coastal area consists of a combination of old and new centers. Old centers are present in many areas on the Caspian Sea coast including Rasht, Anzali, Fooman, Lahijan, Astara, and Talesh in Gilan Province; Sari, Amol, Babol, Behshahr, Ramsar, and Tonekabon in Mazandaran Province; and Gorgan, Gonbad, Bandar Gaz in Golestan Province. Furthermore, there are numerous new communities, such as Shelman in Gilan Province, Sorkhrood in Mazandaran Province, and Agh ghala in Golestan Province, that are either extensions of old cities or small villages that have developed into new towns. Despite the fact that Gilan, Mazandaran, and Golestan Province are third, fourth, and sixth in terms of population density among Iran's 31 provinces, they are ranked 27th, 28th, and 30th in terms of urbanization ratio, indicating that a sprawl and scatter form of settlements are dispersed along the coastline area (amar.org.ir, 2022). Building structures in both urban and rural areas have changed to concrete structures in recent years due to their tolerance to humid climates.

1.2.7. Current and Projected Impacts

- **Environment and Biodiversity**

The decrease in the CSL can seriously harm the biodiversity and coastal habitat in the future. The recent fluctuations of the Caspian Sea imposed significant threat to the Gorgan Bay and Miankaleh wetland.

Biodiversity in the Caspian Sea will also be severely affected, as the sea supports many of the unique and ancient species from the Mesozoic era, which live in the shallow areas and use the northern area as spawning grounds, including 90% of the world's sturgeons. Higher temperatures have also contributed to eutrophication, which cuts oxygen levels needed by other organisms. If the temperature increases by just 1.5 - 2.0 degrees Celsius, on average 20% of the animal and plant species will be endangered to become extinct across the Caspian Sea basin and its respective catchment area, and as cited above, the potential for warming by 2100 is even higher levels of temperature increase.

The projected Caspian Sea level decline combined with the loss of the highly productive and seasonally ice-covered northern Caspian shelf will severely affect this unique ecosystem, which is already under immense stress due to pollution, over-exploitation and the introduction of invasive species (Lattuada et al, 2019).

The seasonal ice cover that forms in the northern section is also prime breeding habitat for the endemic Caspian seal. The reduction in winter sea-ice area will affect pupping grounds for the endangered Caspian seal. The disappearance of the vast shelf further robs the Caspian Sea of shallow-water habitats that are major food sources (e.g., for fish, migrating birds, and the endemic seal), and provide spawning grounds for native and endemic fish species such as the endangered sturgeons (Wilson et al, 2016).

Impacts of climate change on the fisheries and aquaculture sector are another main issue of concern. The number of fish stocks during the period 1997-2018 has been decreasing, and environmental factors have increased although the trend of provincial ecological changes was not the same, and the

studied factors have acted differently on marine reserves. There is also an increase in sedimentation and development of sediment cells, removal of merged and submerged aquatic plants, destruction of fish habitats, and migration cluttering of Anadromus and Catadromusspecies. (Rabbaniha, 2013.) This has an impact on both livelihoods and food security.

A combination of climate change impacts and degradation are affecting critical ecosystems such as wetlands. Sedimentation due to rainfall, drought, irregular irrigation and aquaculture, agricultural runoff, urban and industrial waste, overfishing and illegal hunting, soil erosion, algal bloom threatens the Anzali Wetland in the Islamic Republic of Iran. A recent study showed that the Anzali Wetland decreased to 20% of the surface area in 2000 due to various factors such as climate change and unsustainable use of natural resources in the region (Farjami, 2021).

Sea level fluctuation impacts the hydrological regime of river systems and basins that flow into the sea, affecting ground waters level and mineralizing rates in a region already impacted by water stress (Gurbanov & Mammadli, 2018). In addition to sea level fluctuation, observed and projected increases in temperature and declines in annual precipitation result in pressure on water supply in an already water-stressed region (Adanalyan and Gevorgyan, 2011). Declining quality of drinking water is also a concern – studies have shown links between water-scarcity caused by climate change and declines in the potability of water as the result of higher concentrations of elements such as iron, zinc and manganese (Rue and McKnight, 2021).

- **Social and Economic Impacts**

In this region, communities and individuals settling in low lying areas and unplanned neighborhoods along the coast and riverbeds are vulnerable to flooding. The amount of assets and populations that need to be protected in the future is increasing and so does the magnitude of losses when floods occur. The most affected are elderly persons and persons with disabilities, women in charge of households and children, and people employed seasonally or in affected sectors which includes many migrants. The coast lines of the Republic of Azerbaijan, the Islamic Republic of Iran and the Russian Federation are the most densely populated Caspian Sea shores. It is in these three countries where the impacts of climate change related hazards on urban and rural populations will be higher in absolute numbers. It is estimated that between 80 to 100 million people live in the Caspian Sea region will be potentially affected by hazards related to climate change. More than 4 million people in the Republic of Azerbaijan (Ministry of Ecology and Natural Resources, 2010) live in coastal areas and would be affected directly or indirectly by sea level fluctuations, increased floods, acute droughts and desertification. In all three countries, sea level decrease will affect the livelihoods of coastal communities, which already experience a drastic decline in economic activities such as fisheries and sturgeon catch. Declining water levels will decrease trade access, the size of vessels that can sail in the sea, access to the Volga River navigation and access to main port infrastructure. The construction sector will also be affected, as main infrastructure in place will be rendered unserviceable, and new infrastructure will need to be progressively put in place. Increased occurrences of extreme weather events as well as droughts and floods will impact both urban and rural areas, including infrastructure, housing and service provision as well as livelihoods.

The agricultural production in the Republic of Azerbaijan has been affected by those extreme weather events, a sector that represents 5.3% of the GDP and employs over 40% of the population (ibid.). In the Islamic Republic of Iran, the agriculture sector accounts for about 18% of the GDP and more than 20% of population employment. With the expected temperature increase in the future, experts predict more frequent extreme weather events, which will put further strain on agricultural productivity including farm and off-farm based livelihoods in rural areas. Meanwhile, the major risk for food security in the Republic of Azerbaijan is climate-sensitive production/ yields. Not only does this risk push many people into poverty, it also disproportionally affects those who are the most vulnerable including women and children. In the Islamic Republic of Iran, increasing risk of droughts will threaten water and food security especially for people who live in the highly populated cities due to extra pressure on the limited water resources (Karandish and Mousavi, 2018).

Climate change impacts will also pose challenges to economic development linked to tourism and recreational activities, which are already being disrupted by precipitation and temperature variation that trigger phenomena such as the thermohaline circulation of colder water to the surface of the sea, reducing the aptitude of water for recreational activities. Research has shown that the marine environment of the southern basin is under serious threat due to the entry of pollutants (industrial and municipal sewage, marine and coastal litter and agricultural pesticides) as well as the effects of climate change and drought (Jamshidi & Jafari, 2021) which impacts on livelihoods of those dependent on fishing and aquaculture for livelihoods.

If the Caspian Sea Level drops between 9-18 m, this can result in rapid and strong incision of major rivers flowing into the Caspian Sea (e.g. Volga, Ural, Kura) resulting in lowering of groundwater levels in the river basins affecting directly agriculture and water use in a region that is already experiencing severe water stress (Prange et al, 2020).

Historically, the rapid decline of the Caspian Sea water level in 1930-1978 and 1995-2019 led to degradation of natural habitats, extinction of coastal wetlands and impacted economic activity in coastal areas (Khoshravan et al, 2019). The economic consequences of a 250 cm increase in the Caspian Sea water level during the period 1978-1995 are estimated at more than $ 17 billion (Kroonenberg et al, 2000).

Shifting coastlines due to sea level fluctuation has a direct impact on infrastructure vital to the economy such as commercial ports, fishing docks, thermal power plants and coastal tourism facilities. The Caspian Sea coast is no exception to this rule and has undergone serious changes and extensive environmental challenges due to fluctuations in sea level. Increased frequency of extreme precipitation events will likely cause floods and soil erosion resulting in damage to urban infrastructure and water resources, as well as impacts on transportation and safety (Zarrin et al, 2022).

The projected sea level drops could cause harbors to become obsolete and in need of constant relocation, shipping lanes will need to be deepened and resorts will become landlocked if there is an ongoing drop in the Caspian Sea Level. (Prange et al, 2000)

The impact on human health is also a concern as climate change can directly impact health due to heat or extreme events or indirectly as a result of diseases spreading. Public health is further linked to the state of environment and environmental pollution which is a significant problem in the Caspian region (State of Environment Caspian Sea, 2019).

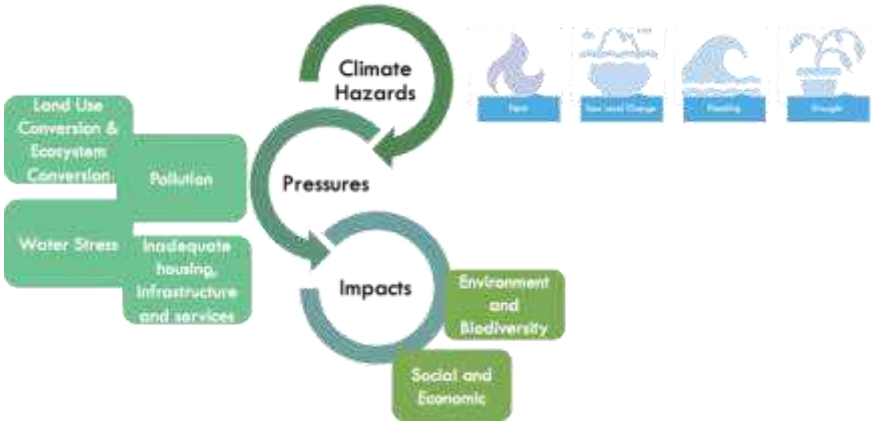


Figure 12. The relationship between climate hazards, pressures and impacts in the Caspian Sea region

1.3. Target Areas and Population

1.3.1. Defining Community Vulnerability to Climate Change

Adaptation to climate change anticipates adverse effects of climate change and takes appropriate action to prevent or minimize the damage they can cause. Adaptation measures can also provide co-benefits for economic and social development, the environment and climate change mitigation. To save human and financial resources alike, it is vital that climate change adaptation is well planned, takes early action based on short-, medium- and long-term interventions and is inclusive. In order to derive sustainable adaptation measures to climate change, a thorough analysis of root causes and vulnerability to climate change assessment is important.

The IPCC Fifth Assessment Report (AR5) Working Group II (2014) defines vulnerability as "*the propensity or* predisposition *to be adversely affected. Vulnerability encompasses a variety of concepts including sensitivity or susceptibility to harm and lack of capacity to cope and adapt*." Moreover, O'Brien et al. (2007) defines contextual vulnerability (starting-point vulnerability) as *"a present inability*

to cope with external pressures or changes, such as changing climate conditions. Contextual vulnerability is a characteristic of social and ecological systems generated by multiple factors and processes." Lastly, Kelly and Adger (2000) defines outcome vulnerability (end-point vulnerability) as "*vulnerability as the end point of a sequence of analyses beginning with projections of future emission trends, moving on to the development of climate scenarios, and concluding with biophysical impact studies and the identification of adaptive options. Any residual consequences that remain after adaptation has taken place define the levels of vulnerability*".

The assessment of underlying vulnerabilities (provided with more detail in Annex II) included an analysis of issues related to exposure, sensitivity and adaptive capacity. Sensitivity focused on compounding factors that are non-climatic pressures which increase vulnerability and as a result climate risks. These include the issues identified above such as pollution, ecosystem degradation and biodiversity loss as well as inadequate housing, services and infrastructure. Adaptive capacity was assessed based on knowledge and capacity at the local level to address climate change as well as existing systems to address climate change.

1.3.2. Selection of most vulnerable communities and target areas

The identification of the most vulnerable communities and target areas to climate change along the Caspian Sea shore in the Republic of Azerbaijan as well as the Islamic Republic of Iran has been conducted through a desk review of national development reports, bilateral conversations with sectoral ministries and local governments, and confirmed by national and local consultations as well as field visits. Four locations have been identified in each country, based on a typology of the target area location as well as a set of indicators that allowed for assessing the dimensions of vulnerability for communities in the respective locations.

Republic of Azerbaijan (A.#):
- target area A.1: Greater Baku Region
- target area A.2: Neftchala
- target area A.3: Astara

Islamic Republic of Iran (I.#):
- target area I.1: Astara
- target area I.2: Bandar-e-Kiashahr
- target area I.3: Mahmoudabad
- target area I.4: Bandar-e-Torkaman

Map 1. Identified target areas and communities along the Caspian Sea shore (not to scale)

In order to generate comparability of interventions, the following typologies for selection of the most vulnerable communities and target areas have been considered[1]:

Table 1. Target Area – Location Typology

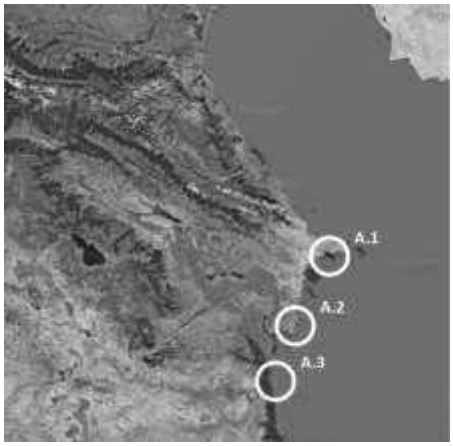
Target Area: Location Typology		Republic of Azerbaijan	Islamic Republic of Iran
1	Target area represents a typical settlement in the respective region that is located along the shoreline	A.1; A.2; A.3;	I.1; I.2; I.3; I.4
2	Target area represents a typical settlement in the respective region located along a river and/ or close to a river mouth	A.2	I.1; I.2; I.3; I.4
3	Target area represents a typical settlement in the respective region located in a low-lying area	A.1; A.2; A.3	I.1; I.2; I.3; I.4
4	Target area represents a typical settlement in the respective region exposed to regular flood and/ or drought events	A.1; A.2; A.3	I.1; I.2; I.3; I.4

[1] Further descriptions on the selected target areas can be found in the respective section of the Annex to the Concept Note.

5	Target area represents a typical settlement in the respective region located to a regionally relevant protected area, i.e. forest area	A.2; A.3	I.1; I.2; I.3; I.4
6	Target area represents a typical settlement in the respective region located in a larger metropolitan area	A.1; A3	I.1; I.2; I.3
7	Target area represents a typical settlement in the respective region facing rapid urbanization dynamics, including informal expansions	A.1; A3	I.1; I.2; I.3; I.4
8	Target area represents a typical settlement in the respective region facing declining urbanization dynamics, including informal expansions	A.2	I.1; I.2; I.3
9	Target area represents a typical settlement in the respective region experiencing in-migration from rural areas, including unplanned urban expansions	A.1	I.3

- **Target Areas in the Republic of Azerbaijan**

The largest challenge in comparing target areas and respective vulnerable communities is the absence of compatible data. Data made available by the Statistical Committee is assessed at national and regional levels only, hence, the vulnerability analysis builds its evidence on localizing national and regional data, validated by site visits and stakeholder consultations. The majority of the communities and target areas along the Caspian Sea shores in the Republic of Azerbaijan that are located outside of the Greater Baku Region and the Absheron Peninsula experience similar challenges. These vary, however, between communities located to the North or South of the metropolitan region. While the problems of poverty and access to income generating opportunities are similar across the country, the specific regions face greater levels of multi-dimensional poverty and inequalities due to varying degrees of urbanization. Faced with extreme weather conditions, including flashfloods and/ or drought events, severe water shortage and access to clean drinking water, salinization of rivers. adaptation represents an issue concerning all governmental entities and requires planned action. With regard to addressing climate change adaptation in the context of an urbanizing country, one of the main shortcomings in the Republic of Azerbaijan is the limited institutional capacities and coordination mechanism across sectors horizontally as well as various levels of governance, particularly with local governments. Besides, legislative frameworks and sector strategies have not fully embraced the interlinkage between addressing climate change adaptation within the wider development context. At this moment in time, climate change related coordination mechanisms across all governance levels are rather weak, causing major delays in localizing and fulfilling global commitments. Especially marginalized and remote communities face general issues of isolation, inequality and exclusion, hereby often not participating in sharing the wider development gains hence, representing the most vulnerable communities to external shocks, such as induced by climate or environmental risks and hazards, at large. While climate change impacts such as droughts induced an increased use of fertilizers, few agriculture specialists are available to advise on appropriate practices. Based on this analysis and consultations, the three target areas that were selected as the most vulnerable communities that the project aims to cover in the Republic of Azerbaijan are (A.1) Greater Baku Region; (A.2) Neftchala; and (A.3) Astara[2].



Map 2. Identified target areas and communities along the Caspian Sea shore – Republic of Azerbaijan (not to scale)

- **Target Areas in the Islamic Republic of Iran**

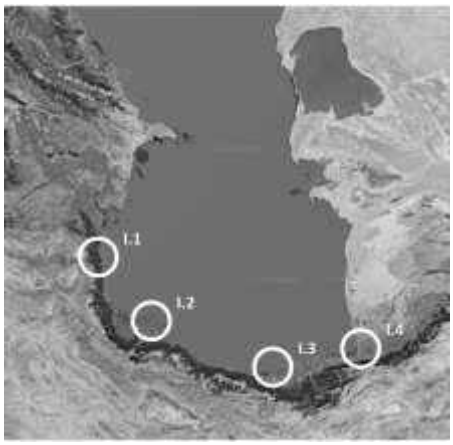
Settlements in the northern coast of the Islamic Republic of Iran, have special features and investigating this area, from east to west indicates that the settlements have different types of development, in such a way that the western and eastern shores of the Caspian coast have a lower

[2] During the Programme Proposal development, further assessments on climate change risks and vulnerabilities have been conducted (see Section 1.3.3), looking both at existing and projected climate hazards, taking into account the specific reasons for vulnerability in a given location.

density of settlements than the central area of the country. Also, the level of development of the three provinces on the northern coast of the Islamic Republic of Iran is different, Mazandaran (Central) and Gilan (Western) provinces have a higher level of development than Golestan (Eastern). However, the trend of climate change shows that the highest rate of change in sea level is found in the Eastern part of the Caspian coast. In other words, most of the consequences of climate change are in the least developed part. In order to identify target areas and communities vulnerable to climate change impacts, based on previous studies, 4 locations in the southern coast of Caspian Sea, which are exposed most to the consequences of climate change (including sea level fluctuation, drought, floods, and temperature increase, have been selected.

There are many female-headed households as well as smaller families with a large share of elderly population in these areas. Moreover, there is a smaller share of the young population in these areas compared to the average of the region and the country. This makes the socio-economic vulnerability of these areas more likely to increase in the coming years. This is also demonstrated in the employment rates, which are already lower than the national and regional averages. Undoubtedly, climate change impacts can be observed through more frequent droughts and weakening of agricultural production, sea level fluctuations and threats to employment and livelihood such as fishing, etc., along with macropolicies related to the national economy. Only in Mahmoudabad, is the unemployment rate less than regional and national indexes due to being one of the densest urban areas in the province, however, showing a spatial imbalance in the distribution of urban and rural settlements in Mazandaran province. The region is located in an earthquake prone zone, and with poorly constructed housing units so vulnerability is compounded. Therefore, hazards, which are likely to occur more frequently and intensely following climate change, will impose significant financial and human costs on these communities.

Given the centralized administrative structure in the Islamic Republic of Iran, national and local government entities coordination is vital in addressing development requirements of communities in the country. Despite overarching challenges due to human and financial capacities of the institutional system, addressing a future environmental crisis has been placed high on the agenda of policy makers. Adequate legislation is being reviewed and mechanisms for implementation adjusted, while promoting the participation of communities in decision making for enhanced accountability of institutions and organizational transparency. Limited systems and mechanisms of civil participation, availability and access to data for evidence-based decision making, inadequacy of monitoring and evaluation mechanisms, etc. are being addressed increasingly as they represent characteristics that prove managerial and institutional vulnerability.



Investigating infrastructure vulnerabilities in target locations is challenging due to lack of available and disaggregated data and information.

Based on this analysis and consultations, four target areas were selected as the most vulnerable communities that the project aims to cover in the Islamic Republic of Iran: (I.1) Astara; (I.2) Bandar-e- Kiashahr; (I.3) Mahmoudabad; and (I.4) Bandar-e-Torkaman.[3]

Map 3. Identified target areas and communities along the Caspian Sea shore – Islamic Republic of Iran (not to scale)

- **Migrants in Target Communities**

Migrants are important members of local communities in the Caspian Sea Region. In the cities and towns along the Caspian Sea in the Islamic Republic of Iran and the Republic of Azerbaijan there are different types of migrants, including urban migrants from elsewhere within these countries as well as migrants from other countries. In some cases, migrants have moved to these urban centers alone and

[3] During the Project Proposal development, further assessments on climate change risks and vulnerabilities have been conducted (see Annex 2) looking both at existing and projected climate hazards, taking into account the specific reasons for vulnerability in a given location.

in other cases they come with their families, which may change their engagement and role in the community.

In the Islamic Republic of Iran, migrants who are prone to climate hazards typically reside in peri-urban areas or rural settlements that are indistinguishable from urban areas due to considerable urbanization along the coast. The rent in peri-urban and rural areas is significantly lower than in urban centers, but they are vulnerable to many types of hazards such as flooding, and lack access to basic infrastructure such as drinking water and solid waste management systems, resulting in pollution and health concerns. Limited access to water has resulted in land degradation which contributes to the migration of people from rural areas to urban centers.

These migrants are engaged in a variety of jobs, often employed in the informal sector. In the Islamic Republic of Iran, many migrants work seasonally in the informal sector, including solid garbage collecting system, which has been prevalent in Iranian cities in recent years. Due to the lack of a social protection system, such as insurance and access to free medical care, they are vulnerable to the adverse effects of climate change. Almost all labor work in dangerous conditions, and the lack of job security puts them in violation of Iranian labor legislation. This situation is precarious for Afghan migrants, particularly those who have arrived in the Islamic Republic of Iran without legal documentation.

- **Data and Information Challenges**

A cross-cutting challenge which was apparent during the preparation of the full proposal was that data on climate hazards, disaggregated population and economic data and environmental and urbanization trends were not always available at the local level in the target communities. Similarly, while data might be collected at a national level, it was not always readily available to local authorities and by extension the project team. As a result, the information presented in this section and the following sections as well as the Annexes represents a synthesis of national and regional data, including academic articles and national government data, information collected through field missions and in discussion with local stakeholders including local government authorities, and in discussions with experts at the national and regional level that have worked on environment and urban issues for many years. Recognizing the challenges that were faced in the project preparation helped to shape the outcomes and components to maximize on the collection and dissemination of data and information at regional, national and local levels to ensure climate adaptation actions and planning are based on the most accurate information and can deliver on benefits to target communities.

1.3.3. Adaptation areas linked to identified hazards and national and local priorities

Based on a location specific Risk and Vulnerability Assessment, the regional programme with its national project components has identified the main concerns and objectives for climate change adaptation. Taking into account urbanization processes with their respective spatial dimension, areas surrounding cities and towns have been considered for location specific climate change adaptation planning and associated adaptation actions. The Risk and Vulnerability Assessment conducted include: (1) understanding past and present climate impacts; (2) understanding climate resilience and future impacts; (3) identifying vulnerable urban sectors in selected target areas; (4) conducting location specific risk and vulnerability assessments (following, including the importance of surrounding areas and the urban hinterland; and (5) identifying main adaptation concerns and defining objectives.

Following UN-Habitat's Guiding Principles for City Climate Action Planning (UN Habitat, 2014), key urban interventions were refined and elaborated context specific for each target area and vulnerable community. Hereby, the basic principles for interventions guided the refinement of interventions. All interventions include livelihood, infrastructure and biodiversity components as well as policy/ strategy, legal and financial aspects in addition to capacity and skills development dimensions. Hereby, the local communities' capacity to adapt to climate change and overcome vulnerabilities is core.

The Project Proposal has outlined adaptation to climate change in urban areas in more detail, while considering the identification, selection and implementation of adaptation intervention options. Suggested options were evaluated against their suitability to the local context, their effectiveness in reducing vulnerability or enhancing resilience and their wider impact on sustainability as well as potential for scaling up. Hence, it is important that further plans are developed and costed

In the Republic of Azerbaijan, the National Adaptation Planning process is also underway and this project can contribute learning to that planning process as well as benefit from the mainstreaming of adaptation at the national level.

The Tehran Convention and regional components also provide an opportunity to share learning and scale up the experiences in the two countries involved in this project. The regional components data and knowledge aspects can also support the implementation and adaptive management of the adaptation measures at the local level.

- **Programme Objectives**

The project aims at tackling the impacts of the main identified hazards: (i) sea level fluctuation and potential decrease; (ii) increased floods; (iii) more intense droughts; and (iv) heat in the Caspian Sea coasts, particularly in the Republic of Azerbaijan and the Islamic Republic of Iran. The proposed adaptation measures for the four main hazards will be considered in relation to urbanization processes and through the integrated approach to spatial and coastal planning, innovation, knowledge sharing, access to resources and management capacity.

The project is comprised of regional engagement for national and local climate action based on building capacity and the evidence base for planning, prioritizing and financing key urban resilience and climate change adaptation measures. Concrete interventions will take place at local levels in both the Republic of Azerbaijan and the Islamic Republic of Iran. Collection of data, building of capacity, studies to improve understanding of nature-based solutions and water management and finance will take place at the local and national levels in both the Republic of Azerbaijan and the Islamic Republic of Iran. This will be upscaled to all Caspian Sea littoral states by utilizing the institutions and instruments under the Framework Convention for the Protection of the Marine Environment of the Caspian Sea (Tehran Convention), an international treaty by all five Caspian Sea countries to cooperate on environmental protection in the Caspian region, which entered into force in 2006. Hence, the overall project objectives are summarized as follows:

Objective 1: Improved regional and national partnerships, institutional and legal frameworks, research cooperation and knowledge management mechanisms in the Caspian Region for evidence-based localization of climate change adaptation and resilience strategies.

Objective 2: Improved knowledge management frameworks for the collection and maintenance of regional, national and local knowledge with a focus on sea level fluctuation in the Caspian Sea region.

Objective 3: Strengthened technical and institutional capacity at the regional, national and local level for long-term planning that incorporates sustainable urban development and climate change adaptation

Objective 4: Innovative climate change adaptation solutions applied and upscaled to communities throughout the Caspian Sea region to reduce their vulnerability to climate change.

2. Programme Components and Financing

Project Components	Expected Concrete Outcomes	Expected Concrete Outputs	Amount (US$)
1. Climate change adaptation planning at regional level	Outcome 1 Regional level decision makers in the Caspian Sea region are enabled to define enhanced strategies at the regional and national level aligned with the normative frameworks, urban development and national climate adaptation priorities	Output 1.1: Data and knowledge on climate change risks and vulnerability for the Caspian Sea collected and shared at the regional level among the five Caspian Sea littoral states	542,000 USD
		Output 1.2: Technical capacity of the Tehran Convention Interim Secretariat to address land-based pollution and urbanization in the context of climate adaptation strengthened	73,000 USD
		Output 1.3: Guidelines and recommendations developed for climate change adaptation coordination, planning and management and strategies between the five Caspian Sea littoral countries	385,000 USD
2. Climate change adaptation	Outcome 2 National decision makers have improved capacity	Output 2.1: Strengthened national-and local level capacities in the Republic of Azerbaijan and the Islamic Republic	638,768 USD

planning at national level in the Republic of Azerbaijan and the Islamic Republic of Iran	and information to plan for, respond and finance climate change adaptation measures to address sealevel fluctuation, droughts, heat waves, and floods, taking into account urban development, in the Republic of Azerbaijan and the Islamic Republic of Iran	of Iran to develop and finance plans and measures to address climate change and disaster related risks and impacts for greater local community resilience especially to sea-level fluctuation, droughts, heat waves, and floods.	
		Output 2.2: Knowledge is developed and captured from the project implementation and disseminated to local and national stakeholders, focusing on public awareness and education about climate risks, especially water scarcity and use	1,305,000 USD
3. Implementation of transformative and catalytic projects at city and community levels, addressing urban resilience and climate change adaptation	Outcome 3 Increased adaptive capacity of the built environment and ecosystems resilience through the implementation of climate adaptation projects. Local government and municipal staff as well as communities have acquired the capacity to manage and maintain priority interventions for upscaling.	Output 3.1: Reduced heat risk through a demonstration greening corridor and development of investment planning for further projects in Baku	2,060,000 USD
		Output 3.2: Enhanced Early Warning System for sea level fluctuation, drought, flooding and salinization based on advanced hydro-meteorological data and urban development plans in Neftchala (Republic of Azerbaijan)	1,045,000 USD
		Output 3.3: Improved water security and management to reduce drought risk through demonstrated rainwater harvesting technology and advancing costed integrated water management plans in Astara (Republic of Azerbaijan)	915,000 USD
		Output 3.4: Improved water security and management to reduce drought risk through demonstrated rainwater harvesting technology and advancing costed integrated water management plans in Astara (Islamic Republic of Iran)	1,005,000 USD
		Output 3.5: Reduced heat risk for residents based on a green belt which also protects Bandar-e-Kiashar (Islamic Republic of Iran) from dust	1,005,000 USD
		Output 3.6: Reduced flooding and drought risk and improved water management as a result of a stormwater drainage system demonstration site inside the city and advancing costed integrated water management plans in Mahmoudabad (Islamic Republic of Iran)	1,005,000 USD
		Output 3.7: Developed Early Warning System for flooding and salinization based on advanced hydro-meteorological data and urban development plans in Bandar-e-Torkaman (Islamic Republic of Iran)	1,005,000 USD
4. Urban resilience, climate change adaptation – partnerships, institutional, legal, research cooperation and knowledge	Outcome 4 Coordination and knowledge sharing of data, information and capacity through the Tehran Conventions for scaling up direct, local climate action in the Caspian Sea Region	Output 4.1: Knowledge and data collected on local climate adaptation action and disseminated to the regional community through an online platform, scientific conferences and scientific collaboration and public awareness raising efforts	598,000 USD
		Output 4.2: Scaling up of direct local level climate adaptation action in the Caspian Sea region through the development of a trust fund to finalize small-scale and micro-grant projects	202,000 USD

3. Projected Calendar

Milestones	Expected Dates
Start of Project/Programme Implementation	July 2023
Mid-term Review (if planned)	June 2025
Project/Programme Closing	June 2026
Terminal Evaluation	June 2027

PART II: PROGRAMME JUSTIFICATION

A. Regional Approach and Programme Components

The programme proposes a regional (Caspian Sea) approach required to develop further evidence on the current sea level dynamics of the Caspian Sea, which needs a holistic understanding of evaporation dynamics but also water inflows from the different watersheds in the different littoral countries. The adaptation policies, strategies and projects to be implemented need to be deduced from a regional perspective, with an understanding of the dynamics of the Caspian countries and their influence towards the system as a whole. Additionally, the regional approach is also needed to understand the urban sprawl, floods, droughts, desertification, salinization and rural – urban migration dynamics affecting multiple countries in the region. Both at the policy level and at the programme implementation level, the adaptation measures need to be adopted progressively by all Caspian countries to ensure a high impact and adaptation sustainability. The programme proposes to start working with two of the Caspian Sea countries and the long-term goal is to scale up some of the programme findings to the other Caspian littoral countries which will be facilitated in the context of the Tehran Convention I that provides a basis for this regional collaboration and knowledge sharing. The programme supports also the existing knowledge and research institutions focused in the Caspian Sea, such as Tehran Convention Interim Secretariat, Coordinating Committee on Hydrometeorology and Pollution Monitoring of the Caspian Sea (CASPCOM).

Infrastructure and/ or ecosystem-based interventions also benefit from being designed and modelled at a regional scale to understand the environmental, social and economic implications of the interventions. Particularly, coastal erosion dynamics are transboundary and need to be understood both at the regional and at the national scales to be able to propose effective long-term adaptation strategies. Hence, all Caspian littoral states need to work together in a coordinated manner, at the technical and political levels to build the resilience of communities and countries bordering on the Caspian Sea.

The regional dimension of the programme and the involvement of existing institutions and collaboration mechanisms such as Tehran Convention and CASPCOM also ensures proper uptake and long-term sustainability of the project activities.

Considering this transboundary dynamic, component 1 capacitates regional level decision makers to define enhanced strategies at the regional and national level aligned with the normative frameworks, urban development, and national climate adaptation priorities. Component 2 focused on the enabling environment at the national level in the Republic of Azerbaijan and the Islamic Republic of Iran, including national capacity to plan for, respond and finance climate change adaptation measures to address the most severe climate impacts of sea-level fluctuation, droughts, heat waves. Component 3 increases the built environment and ecosystem resilience through the implementation of climate adaptation projects and capacitates local government officials and communities to manage and maintain priority interventions for upscaling. Component 4 serves as feedback loop to coordinate the knowledge, data, information and capacity gained throughout the project through the Teheran Convention for scaling up local climate action in the Caspian Sea region.

Figure 14. Theory of Change for the regional programme proposal

Adaptation to climate change and resilience will be ensured by these interventions at different levels not just by reinforcing the built and natural environment, but also by building socio-economic resilience with a focus on livelihoods and development issues. The figure below shows how the four components relate to each other to support implementation and eventual upscaling at the regional level.

B. Innovative Solutions to Climate Change Adaptation

The programme promotes new and innovative solutions for climate change adaptation given the context and approach that is being undertaken. In terms of the context, there is a unique set of challenges in the Caspian Sea region posed by sea level fluctuation that will most likely result in further sea level decrease whereas the majority of coastal climate change adaptation addresses sea level rise. The impacts of sea level decrease are not well defined or researched and the evidence-based output will contribute to better understanding a unique situation globally. The regional collaboration and the national level outputs on studies on nature-based solutions for sea level decrease will contribute critical knowledge where there is currently a gap from the local to global level.

The approach at the local level is innovative both in that it brings in innovative technologies in several communities such as rainwater harvesting as well as Early-Warning Systems. Concrete adaptation measures will be linked with in-depth planning efforts for critical issues such as water scarcity, salinization and heat. The plans will also focus on investments and costing solutions in order to catalyze additional finance for further uptake of adaptation measures.

Moreover, as urban migrants, generally, remain invisible in the climate change adaptation policy and programming at the national and local levels, the programme's special attention will be on enabling the urban migrants and their families to contribute to and benefit from the measures to address climate change adaptation. As part of the methodology, policies and normative documents are deducted from concrete projects, providing an innovative approach to understanding and tackling the key barriers for the implementation of urban planning and resilience policies, hereby recognizing urban migrants and their families as one of the key stakeholders in climate change adaptation and enabling them to contribute to and benefit from resilience building and circular economy is innovative.

C. Economic, social and environmental Benefits

Climate change poses a threat to achieving most of the goals of sustainable development. Moreover, climate change impacts are likely to exacerbate underlying causes of vulnerability, especially for those already facing societal inequities because of their gender, age, class, indigeneity and/or disability. The regional programme will promote economic, social and environmental resilience in conjunction with regional and national priorities to mobilize resources for implementation by developing transformative climate change adaptation projects that have the potential to act as catalyzers for climate-resilient job creation and economic activities. At the national and local levels in the Republic of Azerbaijan and the Islamic Republic of Iran, activities are planned to build the long-term sustainability of the countries and local communities with resilience measures that also bring economic, social and environmental benefits. At the national level, studies on nature-based solutions, salinization and spatial planning for urban areas for the Caspian Sea will support improved environmental rehabilitation and conservation with the changing circumstances. Also at the national level, studies on building climate resilient livelihoods will identify economic and social benefits associated with EWS, especially for agriculture, tourism and aquaculture sectors, with a focus on migrants and families left behind by migrants. In addition, public education and awareness campaigns about climate change risks, especially related to water supply, will build knowledge and help empower groups to make sustainable choices about water consumption and use.

At the local level, the greenspace interventions in Baku and Bandar-e-Kiashar will have social and environmental benefits for the local community with improved air quality, public space, and health benefits. In Baku, the greenspace will also be accompanied by development of a public transport corridor and economic development of the corridor. The interventions on EWS in Neftchala and Bandare-Torkaman will reduce the loss of property and life from flooding impacts and loss of fertile land and livestock due to salinization in the water. The water management and rainwater harvesting systems in Astara (Islamic Republic of Iran) will benefit people living in social housing and in Astara (Republic of Azerbaijan) will be combined with long term integrated water management planning to improve sustainability of water supply and use in the region which benefits tourism, agricultural productivity and human health.

Table 2. Economic, social and environmental Benefits

Type of benefit	Baseline	With/after the project
Economic	• Increase of extreme weather events resulting in floods, impact on private property and public infrastructure, economic losses and worsen livelihood conditions. • Decreased productivity for seasonal workers and fishing community. • Decreased agricultural productivity and loss of livestock due to salinization and limited water resources decreasing income-opportunities. Risks to tourism industry from lack of water supply and increased extreme events including flooding and dust storms.	• Reduced losses on private property and public infrastructure due EWS and improved spatial planning for flooding. • Climate resilient livelihood pathways identified. • Improved access to water for agricultural productivity and households. • Reduced losses of tourism generated income due to extreme events and low water supply affecting the tourism industry.
Social	• Extreme weather events such as floods, droughts and heatwaves are considered co-drivers of poverty and result in social problems such as sanitation, food security and health issues. Urban heat waves particularly affect the elderly, children, and people with medical conditions, causing various illnesses, including heat cramps, heat exhaustion, heatstroke, and hyperthermia Water stress has an impact on public health. • Migrants and other groups lacking information on risks. • Low education and awareness of water supply issues and how they relate to climate change.	• Reduced impact to human health due to heat stress. • Reduced social impacts in communities under poverty. • Reduced damage to infrastructure for more resilient vulnerable communities. • Reduced public health impacts from heat and water stress. • Reduced mental health problems due to extreme weather events', flooding, displacement and heat stress impact on the population. • Increased awareness of climate risks by migrants and other members of the community. • Improved knowledge and understanding of water supply issues and how they relate to climate change.
Environmental	• Extreme weather events such as floods and heatwaves and sea level fluctuation have a severe impact on ecosystems and biodiversity. • Urban heat is leading to changes in vegetation cycles affecting flora and dependent fauna that causes loss of biodiversity. • Lack of knowledge on appropriate nature-based solutions for salinization and sea level fluctuation. • Desertification contributing to land conversion. • Pollution and degradation of water ways.	• Improved understanding of nature-based solutions for sea level fluctuation. • Sustained and enhanced capacity of ecosystems to provide life-supporting services. • Reduced pollution of waterways from sewage and solid waste. • Improved understanding of river ecosystem health.

D. Cost-effectiveness of the proposed Programme

By focusing on similar solutions in the target communities, there is an opportunity for efficiency gains and learning that can be shared across the project. At least three communities are implementing similar concrete measure (rainwater harvesting & EWS) at the local level so there can be cost-sharing in terms of external expertise brought in to support the measures as well as developing the training at local level. Also at the local level, there is a focus on development investment plans and costed water management plans to find funding and cost-effective solutions for further adaptation measures in the Islamic Republic of Iran and the Republic of Azerbaijan. In addition, having the capacity building and knowledge generation and dissemination at the national level provides an opportunity to utilize the existing coordination and capacity at national level to share information. One such proposed solution is the establishment of a Caspian Sea trust fund for private sector sponsorship to support small-scale and micro-grant projects on sub-regional and municipal levels. Considering the envisaged cooperation with the biennial Caspian Economic Forum the fund holds great potential for innovative, specific and sustainable climate change adaptation projects. From a strategic point of view, the cost-effectiveness of planning and managing urban and maritime development as well as adaptation to climate change strategies in advance is proven to be more cost effective rather than being responsive to natural hazards or once informal urban sprawl has occurred. In relation to cost-effectiveness of project management, the presence of UN-Habitat and UN Environment Programme as well as IOM at country

and regional scales, supported by the Resident Coordinator's offices in addition to the existence of on-going projects by various development partners ensure that human and financial resources will be managed in the most cost-effective manner, building on a solid know-how and networks of professionals to develop project activities.

E. Consistency with national or sub-national sustainable Development Strategies

The proposed project is supporting the Republic of Azerbaijan and the Islamic Republic of Iran in achieving their respective targets committed to achieving the 2030 Sustainable Development Agenda, particularly Sustainable Development Goals 6, 11, 13, 14 and 15.

- SDG 6: Ensure availability and sustainable management of water and sanitation for all
- SDG 11: Make cities and human settlements inclusive, safe, resilient and sustainable;
- SDG 13: Take urgent action to combat climate change and its impacts;
- SDG 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development
- SDG 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

In addition to the SDGs, the programme and its relevant project sub-components at country level is in line with the New Urban Agenda goals. It aligns with the Implementing Entity's Strategic Plan 2020 – 2023 and all the Domains of Change.

- DoC1: Reduced spatial inequality and poverty in communities across the urban-rural continuum;
- DoC2: Enhanced shared prosperity of cities and regions;
- DoC3: Strengthened climate action and improved urban environment; and
- DoC4: Effective urban crisis prevention and response.

At the national level, both the Republic of Azerbaijan and the Islamic Republic of Iran have outlined targets for adaptation contributions in their Intended Nationally Determined Contributions (INDC). The Republic of Azerbaijan has committed to addressing adaptation measures for decreasing or minimizing the losses that may occur at national, local and community levels per sector in addition to guiding the urbanization process, including the land-use change towards preservation of agricultural land, open spaces and increased biodiversity, while addressing the impacts of droughts, floods and heat island effect. In the Islamic Republic of Iran, public and private investments are steered towards contributing to sustainable water management, environmental conservation and the protection of natural resources in addition to innovations in the agricultural, forestry, water and industrial sectors as well as the introduction of early warning and monitoring systems for climate observation. The proposed project aligns with regional, national and local policy priorities, strategies and plans. It aims to contribute to the localization and furthering the implementation of elements of those.

In addition, the Republic of Azerbaijan has initiated its National Adaptation Planning process with a grant from the Green Climate Fund, implemented by UNDP, with the Ministry of Ecology and Natural Resources as National Designated Authority. The NAP process focuses on water, agriculture and coastal areas and focuses on building the capacity of stakeholders and mainstream adaptation considerations.

Caspian Sea Region

The project objectives are in line with the Framework Convention for Protection of Marine Environment of Caspian Sea - Tehran Convention. Having entered into force in 2006, the Tehran Convention is the first regional legally binding instrument signed by all five Caspian littoral states. It serves as an overarching governance framework which lays down the general requirements and the institutional mechanism for environmental protection and sustainable development in the Caspian Sea region. Under its umbrella the Parties have developed additional Protocols on priority areas of common concern:

- Protocol Concerning Regional Preparedness, Response and Co-operation in Combating Oil Pollution Incidents (Aktau Protocol);
- Protocol for the Protection of the Caspian Sea against Pollution from Land-based Sources and Activities (Moscow Protocol);
- Protocol for the Conservation of Biological Diversity (Ashgabat Protocol);
- Protocol on Environmental Impact Assessment in a Transboundary Context.

In addition, other regional agreements were taken into account while developing the concept note:

- Coordinating Committee on Hydrometeorology and Pollution Monitoring of the Caspian Sea (CASPCOM);
- Agreement on the Preservation and Rational Use of Aquatic Biological Resources of the Caspian Sea.

Republic of Azerbaijan

The project will help achieving the goals of the Republic of Azerbaijan's NDC which is based on the reduction of vulnerabilities from climate change impacts, particularly developing relevant adaptation measures for decreasing or minimizing the losses that may occur at national, local and community levels. More specifically, it addresses the objectives, strategies and priority actions specified by national development plans and related to Climate Change Adaptation, Disaster Risk Reduction, Environment and Urbanization. It will also contribute to address the objectives, outcomes and priorities of the National Adaptation Plan (NAP), which is currently being developed in the Republic of Azerbaijan. Relevant key documents identified are: NDC Azerbaijan (2017); National Caspian Action Plan (2002); 3rd Communication to UNFCCC (2010,) Azerbaijan 2020, Law of the Republic of Azerbaijan on Fundamentals of Urban Development (1999); and Law of the Republic of Azerbaijan on Architectural Activity (1998); Law on Hydrometeorological Activities (1998), Law on Environment Protection (1999), Law on Environmental Safety (1999), Law on Protection of Atmospheric Air (2001).

Unfortunately, there has not been a national level urban policy enacted in the Republic of Azerbaijan, However, the Government has conducted several multi-sector regional and local level territorial planning initiatives, including the Master Plan for the capital city of Baku (https://arxkom.gov.az/en/bakinin-bas-plani), which includes plans for urban and environmental regeneration and the creation of sustainable urban infrastructure. Several secondary cities in the country are undergoing the development of Master Plans and some districts are engaging in the preparation of district level planning strategies, too. Moreover, the government of the Republic of Azerbaijan has rolled out a smart cities and smart villages programme across the country, focusing on the implementation of sustainable solutions to housing, manufacturing, social services, "smart agriculture" and alternative energy provision. At the same time this Road Map adopted by the Government in 2016 foresees new approaches to development of infrastructure including electricity, water, waste management and alike for all communities across the country, including the establishment of new governance system in these areas (https://static.president.az/pdf/38542.pdf pp 847). The proposed programme will contribute to the realization of strategies and plans at the local level.

Islamic Republic of Iran

The project will help achieving the goals of the Islamic Republic of Iran's INDC which includes the reduction of vulnerabilities of the Islamic Republic of Iran from climate change impacts, particularly developing relevant adaptation measures for decreasing or minimizing the losses that may occur at national, local and community levels. More specifically, it addresses the objectives, strategies and priority actions specified by national development plans and resolutions as they relate to Climate Change Adaptation, Disaster Risk Reduction, Environment and Urbanization. Relevant key documents identified are: INDC Iran (2015); 3rd Communication to UNFCCC (2017), National Communication (2017), Environmental Policies and National Urban Policy in Iran – Abstract Diagnostic Report (2018), the Green Management Regulations (2019), Integrated Coastal Zone Management (ICZM) Plan (2020), Provincial Spatial Plans (2021).

Environmental Policies and National Urban Policy in Iran (NUP): The 2018 Abstract Diagnostic Report discusses the country's vulnerability to climate change impacts. The following climate change related issues are highlighted: lack of adequate infrastructure; need for awareness on optimal use of water and food resources; fragility of ecosystems and vulnerability of ecosystems such as wetlands; exposure to natural disasters such as floods and droughts; widespread environmental degradation due to changing land use, overgrazing, cutting trees, smuggling soil, illegal well construction; widespread emission of water and soil pollutants due to urban, industrial and agricultural activities; dependence of local economies and the livelihoods of a high percentage of the population to natural resources; lack of financial resources and undesirable economic system; and overall weakness in inter-sectoral collaboration, team-work and public participation in decision-making and implementation of programmes. At this moment in time, the final NUP Report with recommendations has not been prepared yet. Hence, all urban planning processes in the Islamic Republic of Iran need to comply with existing legislation and policy directions.

The critical legal documents in this regard are: the Law of Permanent Provision of Development (LPPD) 2017; Vision Document of IRI (VDI) 2025; General Policies of Iran (Environment-Section, Urbanization -Section) (GPI) 2012 as well as the National Spatial Plan of Iran (NSP 2021, in preparation); Provincial Spatial Plans (PSP 2020, approved) and the Integrated Coastal Zone Management Plan (ICZM 2021, under revision). The main strategies of above laws and policies regarding climate change adaptation are: decentralization of population and economic activities from megacities (ref. LPPD, VDI, GPI); moving toward green and smart cities with a green planning system (ref. LPPD, GPI, NSP, PSP); low carbon industrial and urban development (ref. GPI, ICZM); green job generation and skill development in this regard (ref. NSP, ICZM); knowledge raising and awareness of the priority of environment in all development activities (ref. NSP, PSP, ICZM); empowerment vulnerable groups (ref. VDI, GPI, NSP, PSP, ICZM); and capacity development of administrative bodies and private sectors to be more vigorous in environment friendly activities (ref. NSP, PSP, ICZM). In conclusion, the various facets of the strategies on a concrete community scale are fully consistent and well-supported by climate adaptation initiatives identified in the Iran programme component. In other words, the proposed intervention would meet the need for local-level adaptation to climate change.

F. Compliance with relevant national technical Standards

Table 3. Compliance with relevant technical Standards – Republic of Azerbaijan

Expected concrete Output/ Intervention	Relevant rules, regulations, standards and procedures (to comply with AF principle 1)	Compliance, procedures and authorizing offices
Comprehensive agricultural production management	Law on Accelerating Institutional Reforms in Agriculture (2014); Law on Establishment of "E-agricultural Information System" (2019).	Ministry of Agriculture
	State Program on Development of Wine-growing in the Republic of Azerbaijan during 2012-2020 (2012); State Program on Development of Tobacco-growing in the Republic of Azerbaijan during 2017–2021 (2017); State Program on Development of Cotton-growing in the Republic of Azerbaijan during 2017–2022 (2017); State Program on Development of Agricultural Cooperation in the Republic of Azerbaijan during 2017–2022 (2017); State Program on Development of Citrus Production in the Republic of Azerbaijan during 2018– 2025 (2018); State Program on Development of Paddy-growing in the Republic of Azerbaijan during 2018–2025 (2018); State Program on Development of Tea Production in the Republic of Azerbaijan during 2018–2027 (2018); State Program on intensive Development of Livestock and efficient Use of Pastures in the Republic of Azerbaijan in 2019-2023 (2019); State Program on the Development of Cocoons and Silkworm Breeding in the Republic of Azerbaijan for 2018-2025 (2018); State Program on Development of Wine-making in the Republic of Azerbaijan during 2018–2025 (2018).	Ministry of Agriculture, FSA
Forest area rehabilitation and conservation	Forest Code (1997); National Forest Program for the Protection and Sustainable Development of Forests in the Republic of Azerbaijan for 2020-2030 (2020); National Strategy on Protection and sustainable Use of Biodiversity in the Republic of Azerbaijan for 2017-2020 (2016)	Ministry of Environment and Natural Resources
Integrated sewage system and solid waste management	Law on Industrial and Household Wastes (1998, 2007); Law on Water Supply and Wastewater (1999); Water Code (1997); Law on Protection of Environment (1999); Law on Safety of Hydrotechnical Installations (2002); Land Code (1999); Law on Environment Impact Assessment (2018); Azerbaijan 2020: Vision to Future Development Concept (2002); State Program for socio-economic Development of the Regions in the Republic of Azerbaijan during 2019-2023 (2019); National Strategy for improving Solid Waste Management in the Republic of Azerbaijan for 2018-2022 (2018).	Ministry of Environment and Natural Resources, Ministry of Economy, Azersu Open Joint Stock Company, local government
Integrated water resource management	Water Code (1997); Law on Protection of Environment (1999); Law on Water Supply and Wastewater (1999); Law on Hydrometeorological Activity (1998); Law on Safety of Hydrotechnical Installations (2002); Law on Environment Impact Assessment (2018); Azerbaijan 2020: Vision to Future Development Concept (2002); State Program for socio-economic Development of the Regions in the Republic of Azerbaijan during 2019-2023 (2019); Action Plan for 2020-2022 to ensure the efficient Use of Water Resources (2020).	Ministry of Environment and Natural Resources, AWF Open Joint Stock Company, Azersu Open Joint Stock Company

Biodiversity protection	Law on Wildlife (1999); Law on Protection of Environment (1999); Law on Specially Protected Natural Areas and Objects (2000); Forest Code (1997); Law on Fishing (1998); Law on Hunting (2004); National Forest Program for the Protection and Sustainable Development of Forests in the Republic of Azerbaijan for 2020-2030 (2020); National Strategy on Protection and sustainable Use of Biodiversity in the Republic of Azerbaijan for 2017-2020 (2016).	The Ministry of Ecology and Natural Resources
Urban planning system	Initial discussions for the preparation of a National Urban Policy have been on going in the country. Spatial Master Plans are being developed for urban areas and revised on a regular basis.	State Committee for Urban Planning and Architecture
Clean energy	Law on Energy (1998); Law on Energy Efficiency (draft); Law on Renewables (draft), Pilot SEA applied to National Strategy on the Use of Alternative and Renewable Energy Sources 2015-20	Ministry of Economy, Azerenergy Open Joint Stock Company
Climate-resilient livelihoods and circular economy	Law on Environmental Impact Assessment (EIA) (2018)	Ministry of Environment and Natural Resources; Ministry of Labor and Social Protection of Population
Knowledge exchange and training on mainstreaming climate change adaptation to urbanization	Law on ecological Education and Awareness of the Population (2002)	Ministry of Environment and Natural Resources, State Committee for Urban Planning and Architecture

Table 4. Compliance with relevant technical Standards – Islamic Republic of Iran

Expected concrete Output/ Intervention	**Relevant rules, regulations, standards and procedures (to comply with AF principle 1)**	**Compliance, procedures and authorizing offices**
Comprehensive agricultural production management	Law on Protection of Natural Resources (1992); Law on Conservation of Gardens and Agricultural Lands (1995); Law on Fair Water Distribution (1985); Law on Preservation and Protection of Natural Resources and Forest Reserves (1992); Law to prevent the fragmentation of agricultural lands (1979); Law on the Establishment of Rural Water and Sewerage Companies (1995); Law on Establishment of the Ministry of Agriculture (2000); Law on approving the Caspian Sea Protection Procedures against Pollution from land-based Resources and Activities (2015)	Ministry of AgricultureJahad; Department of Environment: Ministry of Energy
Forest area rehabilitation and conservation	Law on Protection and Exploitation of Forests and Pastures (1967); Law on Protection of Natural Resources (1992); Law on Preservation and Protection of Natural Resources and Forest Reserves (1992); Nature Tourism Regulations (2005)	Department of Environment; Ministry of Agriculture-Jahad; Housing Foundation of Islamic Revolution
Integrated sewage system and solid waste management	Waste Management Act (2004); Law on Determining the Status of Forests and Pastures (1988); Law on Protection of Sea and Border Rivers from Oil Pollution (1975); Law on Establishment of Water and Sewerage Companies (1990); Law on the Establishment of Rural Water and Sewerage Companies (1995); Municipal Law (1955); Law on Approving the Caspian Sea Protection Procedures against Pollution from Land-based Resources and Activities (2015)	Ministry of Interior; Department of Environment; Ministry of Roads and Urban Development
Integrated water resource management	Law on Protection of Natural Resources (1992); Law on Protection of Sea and Border Rivers from Oil Pollution (1975); Law on Protection and Exploitation of Water Resources (1995); Law on Fair Water Distribution (1985); Law on Establishment of Water and Sewerage Companies (1990); Law on Establishment of Rural Water and Sewerage Companies (1995); Law on approving the Caspian Sea Protection Procedures against Pollution from Landbased Resources and Activities (2015); Law on Preservation and Protection of Natural Resources and Forest Reserves (1992)	Ministry of Energy; Ministry of Interior: Ministry of AgricultureJahad

Biodiversity protection	Law on Hunting (1967); Law on Protection of Natural Resources (1992); Law on Protection of Sea and Border Rivers from Oil Pollution (1975); Law on Protection, Rehabilitation and Management of Wetlands (2017); Law on Preservation and Protection of Natural Resources and Forest Reserves (1992); Bill of Punishment for Unauthorized Fishing from the Caspian Sea and the Persian Gulf (1979); Law on comprehensive Animal Husbandry System (1975); Nature Tourism Regulations (2005); Law of Agreement on the Protection and optimal Utilization of the Caspian Sea Living Resources (2015) Law on Establishment of Caspian Sea Sturgeon International Research Institute (1997); Law on Punishment of Illegal Fishing in the Caspian Sea (1967)	Department of Environment; Ministry of Foreign Affairs; Ministry of Roads and Urban Development; Ministry of AgricultureJahad
Urban planning system	Air Pollution Prevention Law (1995); Built and Coastal Land Law (1975); Law to prevent Fragmentation of Agricultural Land (1979); Law on the Establishment of the Caspian Sea Studies and Research Center (1995); Law on the Establishment of the Supreme Council of Urban Planning and Architecture (1972); Law on Establishment of the Supreme Council for Traffic Coordination in Cities (1993); Law on New Cities (1999); Municipal Law (1955); Law on Name Change of Ministry of Development and Housing to Ministry of Housing and Urban Development (1974); Law of Engineering and Building Control System (1995); Law of the Agreement on the Protection and Optimal Utilization of the Living Resources of the Caspian Sea (2015); Law on Cooperation Agreement on Meteorology of the Caspian Sea (2015); Law on the Caspian Sea Marine Environment Framework Convention (2005)	Ministry of Science, Research and Technology: Ministry of Roads and Urban Development; Ministry of Interior; Department of Environment; Iran Construction Engineering Organization
Green energy	Law on the Establishment of the Caspian Sea Studies and Research Center (1995); Law of Engineering and Building Control System (1995); Law on the Caspian Sea Marine Environment Framework Convention (2005)	Ministry of Energy; Department of Environment, Ministry of Roads and Urban Development; Iran Construction Engineering Organization
Climate-resilient livelihoods and circular economy	Iran Tourism Industry Development Law (1996); Law on the Establishment of Industrial Estates Company (1983); Labor Law and Social Welfare (1990); Law on Punishment of Illegal Fishing in the Caspian Sea (1967)	Ministry of Cooperatives, Labor and Social Welfare; Ministry of Science, Research and Technology; Ministry of Education
Knowledge exchange and training on mainstreaming climate change adaptation to urbanization	Law on Environmental Protection and Improvement (1974); Built and Coastal Land Law (1975); Law on the Establishment of the Caspian Sea Studies and Research Center (1995); Law on Protection and optimal Utilization of the Living Resources of the Caspian Sea (2015); Law on Cooperation Agreement on Meteorology of the Caspian Sea (2015); Law on Approving Caspian Sea Protection Procedures against Pollution from land-based Resources and Activities (2015); Law on Caspian Sea Marine Environment Framework Convention (2005); Law on Establishment of Caspian Sea Sturgeon International Research Institute (1997); Law on Punishment of Illegal Fishing in the Caspian Sea (1967)	Ministry of Energy; Department of Environment; Ministry of Roads and Urban Development; Ministry of Interior: Ministry of Foreign Affairs; Iran Construction Engineering Organization

G. Duplication of Programme with other Funding Sources

The programme will avoid overlapping with projects that have been conducted or are ongoing both in the Republic of Azerbaijan and the Islamic Republic of Iran and seek complementarity in the climate change adaptation and disaster risk reduction field as well as addressing environmental and urban challenges, such as the International Climate Finance for Eastern Europe, the Caucasus, and Central Asia (EECCA 2016,) UNDP Managing droughts and floods in Azerbaijan (UNDP), the Increasing Representation of effectively managed marine ecosystems in Azerbaijan (UNDP GEF, 2012), Integrating Climate Change Risk Management in Azerbaijan (UNDP), National Adaptation Plan (NAP) Support Project for adaptation planning and implementation in Azerbaijan (UNDP, ongoing), EU4Climate (UNDP, ongoing), the Ecosystem-based Adaptation Programme. For the Islamic Republic of Iran, current ongoing initiatives to coordinate and integrate with this proposal are Reducing Vulnerability to Climate Change in the Lake Bakhtegan Basin (UNDP, planned). Moreover, the programme will closely coordinate with the ongoing projects coordinated by FAO, targeting climate change adaptation and climate resilience in coastal zones. A particular emphasis will be laid on the components addressing both policy and implementation dimensions related to climate change

adaptation and climate resilience planning, building on respective climate change impact assessments on biodiversity and livelihoods mostly in the solid waste, water and sewage sectors. Alongside the work of the whole United Nations Development System in the Caspian Sea region and the programme countries, knowledge and awareness on climate change adaptation will be fostered as well as a harmonization of climate change adaptation to sector policies conducted. It is vital to promote active participation of communities in decision-making processes as well as the development of climate resilient income generating activities. The following sectors have been highlighted by FAO: biodiversity protection, forest restoration, assistance to fishery communities, forestation and activities against salination and erosion of land. As International Financing Institutions have commenced engagement in the climate adaptation and urbanization spheres, the programme ensures the alignment with planned outputs.

The programme has learned from previous and ongoing initiatives in the relevant sectors and will complement them by addressing the challenge of coastal erosion along the Caspian Sea shores. However, the proposed components in the project present a more specific and unique approach to action, based on spatial and maritime planning and implementation of concrete adaptation initiatives. It promotes an integrative and multi-sectoral approach to climate change adaptation and resilience, and it will be more distinctively focused on urban planning and design as a key tool to address the described challenges at regional and local level. Considering coastal area challenges are essentially related to the use of land, population growth and spatial development, this approach becomes crucial.

In accordance with the relevant decrees and orders of the President of the Republic of Azerbaijan, within the framework of "National Program on Environmental Socio-Economic Development in the Republic of Azerbaijan", "Comprehensive action plan for 2006-2010 on improving the environmental situation in the Republic of Azerbaijan", "State Program on socio-economic development of Baku and its settlements for 2011-2013", as well as “Road map for the national economy and its main sectors” landfills on collection, transportation and disposal of hazardous (including radioactive) wastes were created by involving international investment.

Within the framework of the “State Program on socio-economic development of Baku and its settlements in 2014-2016”, the national water supply and sewerage project is underway in 6 districts of the Republic of Azerbaijan. Reconstruction of water supply and sewerage infrastructure in Astara, Dashkasan, Gadabay, Tartar and Gazakh districts within the framework of the “National Water Supply and Sewerage Project in 6 Regions of Azerbaijan” co-financed by “Azersu” Open Joint Stock Company and the Islamic Development Bank is in the implementation stage. In April 2011, the Government of the Republic of Azerbaijan formally applied to the Islamic Development Bank (IDB) for financing the project. In December 2011, the Exception Agreement and the Agency Agreement were submitted by the IDB to the Government of Azerbaijan. Both agreements were signed by the Government of Azerbaijan and the Islamic Development Bank in April 2012 and entered into force on 25 August.

In Mahmoudabad County, where Mahmoudabad city is located, the ICZM project 2021 has recommended some interventions. ICZM's most essential action plans include biodiversity protection, prohibition of urban expansion in coastal areas, and others. In addition, the Mazandaran’s Spatial Development Plan 2021 which covers Bandar-e-Torkaman proposes some strategies to enhance the environmental situation of the province, some of which are:

- Proportion of type of exploitation and consumption of natural resources with the ecological potential
- Biodiversity Management (Plant and Animal);
- Control and reduction of environmental pollutants;
- A comprehensive and strategic view of sustainable coastal development; and
- Quantitative and qualitative development of the province's tourism potential.

It also emphasizes the ecological potential of the province, which shows severe discrepancies. These include the following:

- Contradictions in the exploitation of the four environmental zones;
- Conflict in the utilization of groundwater resources: water loss compared to previous years, due to over-harvesting, unauthorized well drilling and consecutive drought; and
- Conflict over the location of landfills.

However, these plans do not integrate projections for climate change and how it will impact on people or the environment nor do they include measures to adapt to climate change.

Table 5. Relevant Projects, Lessons Learnt and complimentary Potential – Caspian Sea Region

Relevant Projects/ Programme, executing Entity and Budget	Lessons Learnt (relevant for proposed Interventions)	Complimentary Potential and non-Duplication
Framework Convention for the Protection of the Marine Environment of the Caspian Sea (Tehran Convention)	The understanding of the necessity to protect and preserve the Caspian Sea's natural resources for future generations and that this goal can only be achieved through international cooperation. It serves as an overarching governance framework which lays down the general requirements and the institutional mechanism for environmental protection and sustainable development in the Caspian Sea region.	Complementary: Republic of Azerbaijan, Islamic Republic of Iran, Kazakhstan, Russian Federation and Turkmenistan confirmed their readiness to go the path of sustainable development and to take environmental concerns into account in their development planning. Non-Duplication: Under its umbrella the Parties have developed additional Protocols on priority areas of common concern. The effective implementation of the Tehran Convention and its Protocols will support the protection of the marine environment and with it of the livelihoods, health and well-being of present and future generations around the Caspian Sea.

Table 6. Relevant Projects, Lessons Learnt and complimentary Potential – Republic of Azerbaijan

Relevant Projects/ Programme, executing Entity and Budget	Lessons Learnt (relevant for proposed Interventions)	Complimentary Potential and non-Duplication
Regional and City Plans/ State Committee on Urban Planning and Architecture	Process of developing city plans for dozens of cities	Coordination of several agencies on producing documents; identification of priority interventions
State Program on various issues (Poverty reduction; employment; socioeconomic development)	Governance in solving problems	Employment strategy; poverty reduction strategy and Targeted Social Assistance Programs on development of underprivileged communities

Table 7. Relevant Projects, Lessons Learnt and complimentary Potential – Islamic Republic of Iran

Relevant Projects/ Programme, executing Entity and Budget	Lessons Learnt (relevant for proposed Interventions)	Complimentary Potential and non-Duplication
Green Management Regulations	No lessons learned yet, project is still ongoing	Complimentary: water consumption optimization; waste management; green building; energy efficiency. Non-Duplication: transportation; informing and educating employees; use of clean and environmentally friendly technologies
Provincial Spatial Plans: Gilan, Mazandaran and Golestan Provinces (2018)	There is an organizational and institutional capacity to prepare and implement integrated plans for coastal provinces. However, many recommendations made by the plan have not been implemented, often due to lacking recourses and financing of offers. Moreover, the political-economic pressures on the country make it difficult to implement the proposed plans and projects. On another note, basic expertise on the impact of climate change to the respective areas is available, yet there is need for further improvements. Moreover, the poor economic situation in the region has had adverse effects on aggravating vulnerabilities	Complimentary: emphasis on the protection of coastal capabilities, dealing with impact of climate change, attention to environmental risks, vulnerable urban and rural communities and planning to manage these hazards. Non-Duplication: emphasis on economic development, improving people's livelihoods, assessing types of risks in different locations (including earthquake, flood, desertification, etc.), assess balanced development between different settlements in order to address spatial inequalities.

Sub-regional Comprehensive Plans	Occasionally, there is a lack of attention to the recommendations made in Provincial Spatial Plans. Moreover, often it is challenging to implement priority projects due to the limited capacity to attract financing.	Complimentary: emphasis on protecting the environment and reducing pollution. Non-Duplication: emphasis on economic development based on environmental capabilities.
Urban Comprehensive Plans	The implementation of Urban Comprehensive Plans tends to lack sufficient funding at municipal level. The plans tend to be dominated by economic inclinations and profit ambitions over plan proposals. Spatial planning, however, is vital in order to address urban sprawl. It is one of the factors threatening the environment and intensifying the impact of climate change. It is highlighted that there is not sufficient guarantee to enforce rules and regulations of urban planning and construction.	Complimentary: reduction of natural habitat pollution. Non-Duplication: special emphasis on the protection of environmental values, principles of sustainability and promotion of urban resilience.
Integrated Coastal Zone Management (ICZM) Plan	The impact of climate change has increased since the preparation of the ICZM Plan. This can be evidenced, for instance, in cases of sea water recession and the change of green fields to brownfields, etc. In addition, economic challenges hinder the realization of recommended proposals for intervention. It also must be highlighted that the lack of public awareness and participation	Complimentary: assessment of risks in coastal areas, proposition of various response programmes in this regard; specify priority areas for intervention; disposal of solid waste and municipal, industrial and agricultural effluents into the Caspian Sea. Improper exploitation of natural resources; pollution of coastal areas due to lack of land for waste disposal. Sea level change, coastal erosion, decreased biodiversity; pollution from vessels and pipelines offshore; decreased fishery resources and fish stocks; illegal and unregulated construction; Illegal
	has caused a declining trend of living conditions in the Caspian Sea coastal region.	land use change. Low productivity of agricultural activities and improper land utilization. Non-Duplication: extensive and in-depth sectoral studies, with focus on protection of natural coastal ecosystems, in addition to building development capacity conservation, development and rational management of resources. An overall Hazard Assessment (OHA) map has been developed for the Caspian Sea coastal areas.

H. Learning and Knowledge Management

There is limited scientific and technical capacity to conduct multi-hazard, vulnerability and risk assessments; real-time weather and climate monitoring capability is very limited; timely forecasting is unavailable in most coastal areas; there has been no attention given to the development of early warning systems for climate-related hazards; and there is no effective set of communication linkages between national level hydrometeorological forecasting capacity and the ability of community level stakeholders to access it. As a result of these barriers, coastal communities in the Caspian Sea Basin lack accurate, timely and actionable information to adapt to the inevitable impacts of climate change and respond effectively to climate-related hazards. Furthermore, there is an insufficient evidence base for the integrated, climate smart coastal zone management planning required for timely and efficient adaptation to expected climate change impacts.

To address the problem outlined above and its root causes and barriers, the proposed project will enable Caspian countries to enrich their climate information by working in the context of the Tehran Convention as the only pre-existing, country-owned, legal institutional framework that serves as an umbrella for addressing Caspian Sea. In this context, learning and knowledge management at regional, national and local levels is vital, with a focus on awareness raising and knowledge sharing of climate change related information and adaptation strategies in particular concrete adaptation measures. The uptake of knowledge and tools identified and developed during the project will be ensured mainly through the activities under the last project component. Its primary objective is to

strengthen the cooperation among countries in the Caspian Sea region by enabling lessons learnt from the project to be applied in other regional and national initiatives as well as policy recommendations through platforms such as the Tehran Convention and its web-based hub Caspian Environment Information Centre. Moreover, the project will apply a capacity development approach in relation to resilience and climate change adaptation. Building on the experience from the nearby Aral Sea region as well as the Black and Mediterranean Sea, a “community of practice” across the Caspian littoral states will bring together a community of urban development and resilience experts to provide technical support and jointly develop bankable projects for climate change adaptation alongside policy support.

At present, Caspian Sea countries are primarily taking single country approaches to climate change challenges. However, it is well understood that isolated adjustments to one part of an ecosystem ripple through the remainder of the system in both predictable and unpredictable ways, affecting the system as a whole and thus necessitating a systems approach that transcends national boundaries. At present, each of the Caspian Sea countries is addressing climate change issues to varying degrees but with a national perspective. As there is a lack of accurate and actional information on climate change impacts on the Caspian Sea basin, its unique array of climate induced threats, is insufficiently considered in country level climate change planning and response actions.

Various knowledge needs influence the objectives, format, and dissemination tools of knowledge products. Different stakeholders may have different or the same interests within one project. The stakeholders of this project include national and local government officials, representatives of the regional Working Groups, the local population, researchers, other international donors, general public, etc. All these stakeholders will require different types of information and data, and different approaches to address their needs. Knowledge Products of this project will include analytical and workshop reports, training materials, reviews, guidelines, manuals and maps.

The region's project stakeholders will gain a common understanding of ICZM and be able to identify solutions and best practices that fit their national/local conditions. A standardized data collection system and qualitative evaluation by local government representatives will be used to systematically track and evaluate these local practices. It will become possible to aggregate, analyze, and share data on a local, national, or regional level through the newly developed CEIC knowledge platform. This iterative and participatory approach will allow the national and local officials who live in different countries but in the same climate zone to learn from successful experiences elsewhere. As the project progresses, the number of training and capacity-building sessions will be expanded and revised as necessary. Trainers can customize knowledge modules to meet national/local circumstances by offering specific combinations of modules. Efficiencies in information exchange, knowledge creation and analysis, dissemination and uptake of new knowledge will be facilitated by all of these factors.

In order to maximize the learning and knowledge exchange between project stakeholders, multiple communication tools can be creatively utilized. Learning can be provided through the web-based platform that will be available on the regional level. It is also planned to use social media, publish printed documents, organize peer-to-peer city learning and exchange workshops between locations within the Republic of Azerbaijan and the Islamic Republic of Iran, and public consultations. The use of social media (internet) will allow for a wide reach, and information can be broadcasted in local languages. It becomes even more important due to possible travel restrictions due to the Covid-19 pandemic. It is also planned to organize a series of public awareness events in the framework of the Caspian Sea Day. It will be based on the action plan that will be developed and presented at one of the regional meetings at the earliest stages of the project.

The project will be sustainably mainstreamed into future initiatives and programs, as the project knowledge will be actively shared with policy makers, donors, private sector representatives, NGOs, and potential programme developers.

The suggested areas of learning and knowledge management are outlined below:

Table 8. Outputs, learning Objectives and Indicators and Knowledge Products

Expected concrete Output/ Intervention	Learning Objectives (LO) and Indicators (I)	Knowledge Products
Output 1.1: Data and knowledge on climate change risks and vulnerability for the Caspian Sea collected and shared at the regional level among the five Caspian Sea littoral states	LO – Regional stakeholders equipped with information related to precipitation, sea level fluctuations, increased air temperature, floods, droughts and chlorophyll distribution in seawater I - # of regional stakeholders familiarized with the short and long-time scenarios of the precipitation, sea level fluctuations, increased air temperature, floods, droughts and chlorophyll distribution in seawater	• Analytical review on information from other regions applicable to the Caspian Sea region in the field of urban resilience and adaptation to climate change. • Report on the results of the workshop on identified potential linkages between Caspian Sea region and other regions in the field of urban resilience and adaptation to climate change Report on collected and systematized of information and data (scientific research, organizations and specialists), including information on previously carried out international projects in the Caspian Sea region related to climate change. • Comparative study on measures in which rules and regulations governing settlements in Caspian countries coastal zones take climate change mitigation and adaptation needs into account • Sequential methods, volumes and patterns of climate data transfer within CASPCOM • Digital maps showing data on precipitation, sea level fluctuations, increased temperature and floods, and droughts and chlorophyll distribution • Report on the existing climatic data for the Caspian Sea region • Technology of climate data transfer and exchange within the framework of MoU signed between CASPCOM and TC • Report on analysis of data and information on sea level fluctuations, increased temperature, floods, and droughts • Digital maps of short- and long-term scenarios of sea level fluctuations • Report on implications of sea level fluctuations on coastal settlements developments, including agriculture, forestry and biodiversity • Report on the results of the workshop on digital maps • Scenarios and short- and long-term perspectives on major elements of climate change including changes in temperature, precipitation and climate events and hazards characteristics and timing and their implications for coastal settlements developments, agriculture, forestry, and biodiversity. • Digital maps of the current trends of short- and long-term perspectives on major elements of climate change including changes in temperature, precipitation and climate events and hazards characteristics and timing and their implications for coastal settlements developments, agriculture, forestry and biodiversity. • Inventories of land-based sources of pollution (point sources; diffuse sources; pollution from other activities) along Annex 1 categories in line with the Moscow Protocol and development of the list(s) of hotspots (Art. 7) in line with the Moscow Protocol. • Pollutants list based on Annex 1, list B (Categories of Substances) incoming through rivers and watercourses.
Output 1.2: Technical capacity of the Tehran Convention Interim Secretariat to address landbased pollution and urbanization in the context of climate adaptation strengthened	LO – Knowledge of TCIS on land-based pollution and urbanization has increased I - # of trainings on land-based pollution and urbanization	• Training and workshops to enhance the capacity of the TCS Secretariat to address land-based pollution and urbanization.

Output 1.3: Guidelines and recommendations developed for climate change adaptation coordination, planning and management and strategies between the five Caspian Sea littoral countries	LO - Regional stakeholders are capacitated to integrate the recommendations developed for climate change adaptation coordination, planning and management into the national and regional coastal management plans. I - # of trainings, # of regional stakeholders trained and # of ICZM guidelines/ recommendation developed and applied	• Reports of regional workshops with key regional, national and municipal stakeholders as well as decision makers on spatial planning and management of coastal areas of the Caspian Sea • Report on assessment of the vulnerability of coastal areas of the Caspian Sea, related to the sea fluctuations • Regional review on legislative and institutional mechanisms in the field of Coastal Zone Management in the Caspian states • Recommendations on the sustainable use of natural resources of the Caspian Sea region for the sustainable development of the coastal areas, based on Regional Guidelines for the • Caspian Sea Region on Coastal Zone Management • Regional Guidelines for the Caspian Sea Region on Coastal Zone Management, including measures to adapt to the effects of sea level fluctuations on the population and infrastructure of coastal areas • Reports of the meetings • Regional review of measures to increase the sustainability and adaptation of urban and rural settlements to climate change in national plans and programs of the Caspian states • Regional recommendations for the inclusion of activities for implementation at the national level to increase the sustainability and adaptation of urban and rural settlements to climate change in national strategies, plans, programs of the Caspian states.
Output 2.1: Strengthened national- and local level capacities in the Republic of Azerbaijan and the Islamic Republic of Iran to develop and finance plans and measures to address climate change and disaster related risks and impacts for greater local community resilience especially to sea-level fluctuation, droughts, heat waves, and floods.	**LO –** National and local level stakeholders are trained to develop and finance plans to address climate change impacts I - # of people trained	• Training materials on developing and financing plans to address climate change impacts in urban areas and focusing on key target populations in local language • Training materials on nature-based solutions, salinization and/or spatial planning and/or integrated water management to address climate change impacts in urban areas and focusing on key target populations • Materials on peer-to-peer city learning and exchange workshops between locations within the Republic of Azerbaijan and the Islamic Republic of Iran • Workshops, seminars and field visits materials on innovative and successful technologies and approaches used to build capacity on climate resilient livelihoods, on how access to Early Warning Systems can build resilience in sectors such as agriculture, tourism and aquaculture as well as access to services, and public space provision.
Output 2.2: Knowledge is developed and captured from the project implementation and disseminated to local and national stakeholders, focusing on public awareness and education about climate risks, especially water scarcity and use	**LO -** Local and national stakeholders are aware of and educated on climate risks, especially water scarcity and use. I - # of people trained	• Communication products in local language to increase awareness with general public on water security risks due to climate change (Republic of Azerbaijan) • Multi-media materials in local language of key messages to key ministries and target groups, including women, migrants and other target groups (Republic of Azerbaijan) • Communication products in local language to increase awareness with general public on water security risks due to climate change (Islamic Republic of Iran) • Multi-media materials in local language of key messages to key ministries and target groups, including women, migrants and other target groups (Islamic Republic of Iran) • A study on nature-based solutions, salinization, and/or spatial planning to address sea level fluctuation in urban areas along the Caspian Sea coast (Republic of Azerbaijan) • A study on nature-based solutions, salinization, and/or spatial planning to address sea level fluctuation in urban areas along the Caspian Sea coast (Republic of Azerbaijan)

		• A study on building climate resilient livelihoods building on how access to Early Warning Systems can build resilience in sectors such as agriculture, tourism and aquaculture as well as access to services, especially for families left behind by migrants in Astara and Neftchala (Republic of Azerbaijan) • A study on building climate resilient livelihoods building on how access to Early Warning Systems can build resilience in sectors such as agriculture, tourism and aquaculture as well as access to services, especially for migrants (Islamic Republic of Iran) • Spatial planning tools such as the Urban Vulnerability Mapping tool to understand areas of critical stress for urban development, biodiversity and climate risk (Republic of Azerbaijan) • Spatial planning tools such as the Urban Vulnerability Mapping tool to understand areas of critical stress for urban development, biodiversity and climate risk (Islamic Republic of Iran)
Output 3.1: Reduced heat risk through a demonstration greening corridor and development of investment planning for further projects in Baku	**LO –** National and local officials and communities will have enhanced knowledge on heat risks and development of investment plans in Baku I - # of officials trained I - # and types of infrastructure constructed and protective natural/social assets built/rehabilitated	• Feasibility study for public space and greening design options including optimal plant species to combat urban heat • Community consultation reports about design and options • Training materials on adaptation investment planning and adaptation finance options • Draft investment plan for remaining hybrid green corridor
Output 3.2: Enhanced Early Warning System for sea level fluctuation, drought, flooding and salinization based on advanced hydro-meteorological data and urban development plans in Neftchala (Republic of Azerbaijan)	**LO** – Local and national stakeholders are capacitated to use enhanced Early Warning System for sea level fluctuation, drought, flooding and salinization based on advanced hydro-meteorological data and urban development plans in Neftchala (Republic of Azerbaijan) **I** – # of officials trained **I** – Early Warning System is in use	• Early warning dashboard system • Communications measures, products and protocols • Training on EWS and data synthesis • Study on NBS to reduce salinization
Output 3.3: Improved water security and management to reduce drought risk through demonstrated rainwater harvesting technology and advancing costed integrated water management plans in Astara (Republic of Azerbaijan)	**LO** – National and local officials and communities will have enhanced knowledge on drought risks and rainwater harvesting technology and advancing costed integrated water management plans in Astara (Republic of Azerbaijan) **I** - # of officials trained **I** - # and types of infrastructure constructed and protective natural/social assets built/rehabilitated	• Rainwater harvesting demonstration sites for education and awareness • Public education campaign on water resource management locally (based on materials developed in output 2.2) • Training materials on water resource management and developing costed adaptation plans • Costed adaptation solutions for integrated water • resource management based on future projections for water demand (based on urbanization and tourism) and water supply • (based on climate change)

Output 3.4: Improved water security and management to reduce drought risk through demonstrated rainwater harvesting technology and advancing costed integrated water management plans in Astara (Islamic Republic of Iran)	**LO** – National and local officials and communities will have enhanced knowledge on drought risks and rainwater harvesting technology and advancing costed integrated water management plans in Astara (Islamic Republic of Iran) **I** - # of officials trained **I** - # and types of infrastructure constructed and protective natural/social assets built/rehabilitated	• Rainwater harvesting demonstration sites for education and awareness • Public education campaign on water resource management locally (based on materials developed in output 2.2) • Training materials on water resource management and developing costed adaptation plans • Costed adaptation solutions for integrated water • resource management based on future projections for water demand (based on urbanization and tourism) and water supply • (based on climate change)
Output 3.5: Reduced heat risk for residents based on a green belt which also protects Bandar-e-Kiashar (Islamic Republic of Iran)	**LO** – Local and national stakeholders are capacitated to reduce heat risks for residents through green infrastructure in Bandar-eKiashahr (Islamic Republic of Iran) **I** – # of officials trained **I** – green belt established	• Rehabilitation of site through greening • Training on adaptation investment planning and adaptation finance options • Upscaling ability through drafting of investments plans for remaining hybrid green corridor
Output 3.6: Reduced flooding and drought risk and improved water management as a result of a stormwater drainage system demonstration site inside the city and advancing costed integrated water management plans in Mahmoudabad (Islamic Republic of Iran)	**LO** – National and local officials and communities will have enhanced knowledge on improved water management and advancing costed integrated water management plans in Mahmoudabad (Islamic Republic of Iran) **I** - # of officials trained **I** - stormwater drainage system demonstration site	• Storm water drainage system sites • Public education campaign on water resource management locally • Training on water resource management and developing costed adaptation plans • Development of costed adaptation solutions for integrated water resource management based on future projections for water demand (based • on urbanization and tourism) and water supply (based on climate change)
Output 3.7: Establish Early Warning System for sea level fluctuation, drought, flooding and salinization based on advanced hydro-meteorological data and urban development plans in Bandare-Torkaman (Islamic Republic of Iran)	**LO** – Local and national stakeholders are capacitated to use Early Warning System for sea level fluctuation, drought, flooding and salinization based on advanced hydro-meteorological data and urban development plans in Bandare-Torkaman (Islamic Republic of Iran) **I** – # of officials trained **I** – Early Warning System is in use	• Development of EWS dashboard system Development of communications measures, • products and protocols • Training on EWS and data synthesis

Output 4.1: Knowledge and data collected on local climate adaptation action and disseminated to the regional community through an online platform, scientific conferences and scientific collaboration and public awareness raising efforts	**LO** - Identification andyses of the investment needs for national and local climate adaptation interventions for coastal provinces of Kazakhstan, Russian Federation and Turkmenistan build upon the experience of the interventions held in the Republic of Azerbaijan and the Islamic Republic of Iran **I** - # of the investment needs for national and local climate adaptation interventions for coastal provinces of Kazakhstan, Russian Federation and Turkmenistan identified **LO** - Collect/ produce/ exchange climate changeoriented science, knowledge, information and best practices through the Climate Change Information and Knowledge Clearing House (CCICH) **I** - # of items uploaded in the Climate Change Information and Knowledge Clearing House (CCICH)	• Renewed CEIC online platform • Capacity building workshops for the National Environmental Information Officers and other stakeholders on the use of the CEIC. • Established Climate Change Information and • Knowledge Clearing House • Established mechanism for disseminating information and information services (Clearing House) among public organizations and other stakeholders on the basis of the CEIC on climate change in the Caspian Sea region, including information on adaptation to climate change in the coastal areas of the Caspian Sea. • Report and recommendations based on consultative meetings with regional stakeholders for development of web-based Science-Policy • Platform under CEIC on Regional Climate Change Resilience • Design of the Web-based Science Policy • Platform under CEIC • Report on lessons learnt from pilot interventions at country and local level for littoral countries of the Caspian Sea. • A list of investment needs and opportunities for national and local climate adaptation interventions • Sustainable Investment Conference report with the list of investment opportunities • Final negotiation documents on Monitoring, • Assessment, Information Exchange under the • Tehran Convention • Reports on the results of the scientific conferences on climate change in the Caspian Sea region • Final documents, suggestions and recommendations for potential measures to alleviate implications of the sea level fluctuations of the Caspian Sea prepared as a result of half yearly meetings of regional expert working groups. • Action plan for the implementation and optimization of the provisions of the Strategy for civil society engagement in the Caspian sea of the Tehran Convention 2011, including raising public awareness in the field of climate change in the Caspian Sea Region and the needs for adaptation to these changes • The final document "The Caspian Sea Day", update of the Strategy for civil society engagement in the Caspian Sea of the Tehran • Convention, including raising public awareness in the field of climate change in the Caspian Sea Region and the needs for adaptation to these changes
Output 4.2: Scaling up of direct local level climate adaptation action in the Caspian Sea region through the development of a trust fund to finalize small-scale and micro-grant projects	**LO** – Regional and national stakeholders are aware of trust fund functions and support its creation **I** - # of participants at the regional consultations	• Regional consultations to set operationalized trust fund • Report on the Trust Fund presentation at • Caspian Economic Forum

I. Consultative Process

A consultative process has been central to respond to development needs of all key stakeholders with special attention to communities and local population. In order to define the scope of the programme, various consultations have taken place with key stakeholders both in the Republic of Azerbaijan and the Islamic Republic of Iran as well as with the Tehran Convention Interim Secretariat and scientific entities (November 2018 – June 2022; a listing of all consultations at regional, national and local level has been made in *Annex 4: Overview of Consultations, including Objectives, Outcomes and Conclusions.* The approach will be expanded during the implementation of the programme, including

with national and local governments, the Caspian Economic Forum, the Commission on Aquatic Bioresources (CAB), CASPCOM, communities and civil society entities, regional think tanks, universities and academia, private sector and other relevant stakeholders, including development partners and United Nations Country Teams, in order to refine the selection of target areas and respective interventions. A major focus will be on communities along the coastal belt and feeding rivers as well as their delta areas. Additional consultations will be conducted under the framework of the Tehran Convention to engage all Caspian littoral states for regional learning and up-scaling.

Table 9: Summary of Consultations in the full Proposal Development Stage

Regional, national and local dimension	Date	Stakeholder	Consultation Objective
Caspian Sea Region	Q.1 2020	UNEP Mediterranean Action Plan Priority Actions Programme Regional Activity Centre (PAP/RAC), Split, Croatia	PAP/RAC offers support to Caspian Sea littoral states on their path towards sustainable coastal development - Outlining of training programme for sector Ministries in Caspian Sea littoral states
	Q.1 2020	Regional Steering Committee	Familiarization of the Committee members with the project and preliminary discussions
	Q.3 2020	Regional Steering Committee	Response to the previously received written comments - Agreement to share the more advanced draft Concept Note containing the information on the national interventions
	Q.2 2021	Regional Center of Excellence in Split, Croatia – Mediterranean Sea on Integrated Coastal Zone Management Planning	Good Practices for Integrated Coastal Zone Management in the Mediterranean Region and adaptation to Caspian Sea Region Outlining of training programme for sector Ministries in Caspian Sea littoral states
	Q.3 2021	Regional Steering Committee	Refinement of programme implementation modalities Engagement of sector ministries in Caspian Sea littoral States
	Q.4 2021	Regional Steering Committee	Agreement on incorporation of comments of the stakeholders into the work plan
	Q.4 2021	Regional Steering Committee	Review of (draft) Project Proposal
	Q.4 2021	UNEP Mediterranean Action Plan Priority Actions Programme Regional Activity Centre (PAP/RAC), Split, Croatia	Good Practices for Integrated Coastal Zone Management in the Mediterranean Region and adaptation to Caspian Sea Region
	Q.1 2022	Regional Steering Committee	Agreement on list of impacts of the main identified climate change related hazards.
	Q.1 2022	Regional Steering Committee	Review of (final) Project Proposal and approval for submission
Republic of Azerbaijan	Q.3 2018 – Q.4 2020	Relevant Sector Ministries	Confirmation of the most vulnerable communities - Consultations on priority climate change adaptation interventions at community level
	Q.1 2019 – Q.4 2020	Relevant national government entities	Building awareness about project ideas and exploring areas of synergy Discussions on vulnerability criteria and site selections; discussion on potential interventions
	Q.1 – Q.3 2020	Private sector entities	Discussion about possible involvement; alignment with ongoing projects
	Q.3 – Q.4 2020	Research / Academia	Discussion about possible involvement; alignment with ongoing projects Outlining skills development programme for green and climate resilient jobs, in close collaboration with private sector and relevant ministries

Q.3 2018 – Q.4 2021	United Nations Resident Coordinator Office and United Nations Country Team (including specific entities)	Alignment of Project Proposal with previous, ongoing and planned activities Lessons Learnt from similar programmes and projects Refinement of project implementation modalities
Q.3 2020	National Steering Committee	Overview of the project for the stakeholders Refinement of project implementation modalities
Q.4 2020	National Steering Committee	Discussion about problems of garbage collection in Baku and surrounding areas
Q.1 2022	United Nations Resident Coordinator Office and United Nations Country Team (including specific entities)	Alignment of Project Proposal with previous, ongoing and planned activities Refinement of project implementation modalities
Q.1 2022	United Nations Food and Agriculture Organization	Discussion on the existing challenges in the country from the perspectives of the climate change adaptation, on-going projects dealing with them and potential pilot activities and sites for the project
Q.1 2022	United Nations Development Programme	Discussion on the existing challenges in the country from the perspectives of the climate change adaptation, on-going projects dealing with them and potential pilot activities and sites for the project
Q.1 2022	Ministry of Ecology and Natural Resources of Azerbaijan	Discussion on the existing challenges in the country from the perspectives of the climate change adaptation, on-going projects dealing with them and potential pilot activities and sites for the project
Q.1 2022	Neftchala ExCom, Neftchala	Discussion on the existing challenges in rayon from the perspectives of the climate change adaptation, on-going projects dealing with them and potential pilot activities for the project
Q.1 2022	Astara ExCom, Astara	Discussion on the existing challenges in rayon from the perspectives of the climate change adaptation, on-going projects dealing with them and potential pilot activities for the project
Q.1 2022	Ministry of Ecology and Natural Resources of Azerbaijan	Discussion on the existing challenges in the country from the perspectives of the climate change adaptation, on-going projects dealing with them and potential pilot activities and sites for the project
Q.1 2022	Relevant Sector Ministries	Discussion on the existing challenges in the country
Q.1 - Q.2 2022	Consultations with municipalities and local communities	Discussion on the existing challenges in rayon
Q.2 2022	Neftchala District Executive Authority	Presentation and discussion of potential interventions at local level in Neftchala, as well as conduct a field assessment
Q.2 2022	Baku City Executive Authority	Presentation and discussion of potential interventions at local level in Baku, as well as conduct a field assessment
Q.2 2022	Astara District Executive Authority	Presentation and discussion of potential interventions at local level in Astara, as well as conduct a field assessment
Q.3 2022	Relevant Sector Ministries	Presentation and discussion of potential interventions at local level in Neftchala, Baku and Astara and get feedback on intervention ideas, as well as to inform about next steps
Q.3 2022	Ministry of Ecology and Natural Resources of Azerbaijan	To present and get feedback on intervention ideas, as well as to inform about next steps
Q.3 2022	Municipalities and local communities	Discussion of potential interventions at local level

Islamic Republic of Iran	Q.3 2018 – Q.4 2020	United Nations Resident Coordinator	Discussion about possible involvement; political/ diplomatic dimension of engagement
	Q.3 2019 – Q.4 2020	Consultations with relevant United Nations agencies	Discussion about possible involvement, alignment with ongoing projects; Implementing partner for nature-based solutions and livelihoods/ skills development component
	Q.2 – Q.3 2020	Relevant Sector Ministries	Explain the goals and components of the project; Awareness of management experiences and concerns in the field of environmental hazards at the coast
	Q.4 2020	Representatives of Steering Committee	Familiarizing stakeholders with the nature and process of the project; Obtaining stakeholder feedback on executive and managerial challenges
	Q.4 2020	Director of Integrated Coastal Zone Management Studies	Explain the goals and components of the project to the officials; Building on achievements of ICZM Project in identifying vulnerable communities.
	Q.1 2021	Ministry of Foreign Affairs	Negotiation on Implementation modality and budgeting
	Q.2 2021	Consultations with municipalities and local communities	Confirmation of the most vulnerable communities - Consultations on priority climate change adaptation interventions at community level
	Q.2 – 2021	National Committee for Habitat	Negotiation on the 4 level components of the project and the ways of completing the full proposal document stage
	Q.2 2021	Local consultations	Risk and Vulnerability Assessment Finalization of Target Communities
	Q.3 2021	National Steering Committee	Awareness of stakeholder suggestions on selecting adaptation measures and the suggestions for better understanding of vulnerable groups and other stakeholders
	Q.4 2021	Local consultations	Analyzing the level of vulnerability and adaptive capacities – Identification of the major challenges caused by climatic hazards and their needs
	Q.2 2022	Ministry of Road and Urban Development / National Steering Committee	Negotiation on the 4 level components of the project and the ways of completing the full proposal document stage including the modality, budgeting, and endorsement

J. Justification for Funding Request

The proposed project components, outcomes and outputs fully align with 1) national and local government / institutional priorities and gaps identified, with 2) identified community and vulnerable groups needs and 3) with the Adaptation Fund outcomes. This alignment has resulted in the design of a comprehensive approach in which the different components strengthen each other and in which outputs and activities are expected to fill identified regional and national gaps and target cities' current climate change response and corresponding institutional capacities. In fact, the selected interventions / activities are directly confirmed and / or proposed by the national, sub-regional and municipal governments and inhabitants of target communities through consultations, as reported in Part II.I above and Annex 4.

The sea level fluctuations, increased temperature, floods and droughts are adding pressure on the Caspian environment. Also, land use conversion and ecosystem degradation combined with the pollution of land, water and air further increase the fragility of Caspian ecosystem. Funds requested from the Adaptation Fund will be used to address the climate change impacts by strengthen the capacity of the Caspian decision makers to define enhanced climate change adaptation strategies at the regional and national level as well as implementation of transformative and catalytic projects at city and community levels in the selected target areas. Without the implementation of actions promoted by the project, it is expected Caspian communities will continue to suffer from the negative impacts of identified climate change hazards such as sea level fluctuations, increased temperature, floods and droughts. It is expected that the project will serve as a catalyst to leverage other climate change adaptation actions and additional resources to scale up some of the project activities.

Component 1 improves the adaptive capacity at regional level by collecting and sharing data and knowledge on climate change risks and vulnerability for the Caspian Sea and improving climate

change adaptation coordination, planning and management and strategies between the five Caspian Sea littoral countries. Currently the data and knowledge on climate change risks and vulnerability is limited and fragmented. Similarly, the region will benefit from a coordinated adaptation planning and management. The national and local level components 2 and 3, its outcomes and outputs are fully aligned with national and local government / institutional priorities and gaps identified with a clear and direct response to sealevel fluctuation, droughts, heat waves, and floods as main climate hazards. The components 2 and 3, its outcomes and outputs also align with needs of identified community and vulnerable groups (see Annex 2) and with the Adaptation Fund outcomes (see Part III. F). Component 2 provides the enabling capacity and information needed for national decision makers to plan for, respond and finance climate change adaptation measures to address sea-level fluctuation, droughts, heat waves, and floods, taking into account urban development, in the Republic of Azerbaijan and the Islamic Republic of Iran. Apart from providing promising business opportunities and economic growth, investments under Component 3 can substantially contribute in the current context in the Republic of Azerbaijan and Islamic Republic of Iran to reduce the need for continued development assistance and reconstruction and rehabilitation efforts after climate impacts.

Component 4 strengthens urban resilience, climate change adaptation – partnerships, institutional, legal, research cooperation and knowledge: The expected outcome is that ccoordination and knowledge sharing of data, information and capacity through the Tehran Conventions for scaling up direct, local climate action in the Caspian Sea Region is facilitated.

The project was designed to enable and ensure strengthening of various workstreams under each component to fill identified gaps of the Republic of Azerbaijan and the Islamic Republic of Iran's current climate change response. The project aims at maximizing the funding amount for the concrete adaptation component directly benefitting local communities in the two countries. Funding allocation to the other (softer) components is required to support the effective execution and sustainability of those components and to share knowledge and lessons learned across the Caspian Sea region and littoral states.

K. Sustainability of the Programme Outcomes

Sustainability is paramount for the long-term impacts and benefits of the programme, beyond its implementation time frame. Hence, this programme will work on increasing institutional and communities' capacities and ownership, facilitating economic opportunities and financial mechanisms, and strengthening technical expertise.

Institutional sustainability:

The programme will pave the way for the national and local government, but also communities, in the Republic of Azerbaijan and the Islamic Republic of Iran and other Caspian Sea littoral states, to replicate, up-scale and sustain 'tested' concrete interventions and develop strategic spatial and land use plans, including risk mapping in other areas affected by coastal hazards by using the 'portfolio' of effective low-cost interventions, the 'urban lab' and by adjusting the institutional and legal framework, where necessary, to sustain this coastal management approach.

Social sustainability:

By fully engaging communities, women, youth and other vulnerable groups in country and local level project activities, including, assessments (during the project development phase), the development of plans/ strategies and monitoring, the programme at achieving long-lasting awareness and capacities of these communities. Besides that, community households will be trained to construct and self-maintain the proposed interventions and to enhance their livelihood options in a sustainable and resilient way. Moreover, lessons and approaches will be shared and replicated among communities, also beyond the target areas and in other countries of the region.

The programme proposes the engageme t of women and vulnerable groups as follows:

- Involvement of women and vulnerable population in community consultations on adaptation and community solutions;
- Engagement of women and vulnerable population directly to awareness raising campaigns, (such as water resources and climate effects, and etc.);
- Advocacy over employment of disabled women and other vulnerable population in target regions and for the activities related to adaptation; and
- Involvement of young girls and vulnerable population in target regions in technical trainings (on use of equipment and other instruments to be used through the project).

Economic sustainability:

Investing in increasing the resilience of coastal areas, vulnerable assets and ecosystems is a sustainable economic approach. It will not only avoid future costs related to climate change and environmental hazard impacts, but it will also enhance livelihood options. Besides that, the strategic spatial and land use plans will also avoid future costs related unsustainable urbanization and to climate change hazards by identifying the high-risk areas and sustain or open-up investment options in the 'suitable' areas.

Environmental Sustainability:

The protection and or enhancement of ecosystems will be sustained through spatial and land use (as well as environmental protection) plans and other institutional and legal adjustments where needed. At the community level, awareness raising campaigns and trainings related to ecosystem protection and revenue-generating activities will support the sustainability of ecosystem-related interventions.

Financial sustainability:

This programme is designed to identify and replicate low-cost building with nature coastal protection and livelihood enhancement interventions. Through the spatial and land use plans (with identified high and low risk areas) governments and the private sector will be able to develop business cases for focused protection and development of priority areas. Besides that, the institutional and legal framework will allow and promote interventions where they are more needed.

Technical sustainability:

The 'portfolio' of interventions will be attractive for national and local governments and communities because solutions will be low-cost and nature-based and promote the building with circular economy dimensions for coastal protection and livelihood enhancement. Besides that, interventions concerning increasing the resilience of certain assets, will be developed using resilience and building back better principles. This will enhance the durability and sustainability significantly. Besides that, the proposed interventions will be maintained in partnership with local governments, public utilities and communities. This will ensure that after the project, interventions are properly maintained and remain in operation

Regional dimension

The sustainability of the project is linked to the involvement of regional initiatives, such as the Tehran Convention, the Caspian Economic Forum, CAB, CASPCOM, national and local governments, local communities and civil society entities, regional think tanks, universities and academia, private sector and other relevant stakeholders during the processes. This will ensure that priorities are aligned with the visions and objectives of partners, and that strategies and projects are aligned to regional and national priorities, and large-scale funds for urban, regional coastal development and resilience.

The project activities directly contribute to envisaged measures for the implementation of the Tehran Convention which the Caspian states have legally committed to. The consideration of ecosystem-based adaptation measures in the sphere of biodiversity protection such as the establishment of coastal and marine protected areas advances the implementation of the regional Protocol on the Conservation of Biological Diversity (Ashgabat Protocol) as well as the global Convention on Biological Diversity. The project activities geared towards identifying and collecting environmental indicators and data for urban and spatial planning support the work of the Working Group on Monitoring and Assessment and the implementation of the Environmental Monitoring Program under the Tehran Convention. And in addition, it will further the Caspian countries' efforts to implement the Protocol on Monitoring, Assessment, Reporting and Information Exchange. Sound and reliable information is a prerequisite for effective climate and environmental policies, which is why the upgrade of the Caspian Environment Information Centre will benefit both the Caspian countries' capacity to adapt to climate change as well as to implement other environmental protection efforts under the Tehran Convention.

National dimension

In addition, the project is conceived as an articulation of different revenue-generating activities to be developed and adopted by communities and in collaboration – partnership with the private sector, such as the trust fund under activity 3.3. The establishment of required management and maintenance mechanisms in the developed projects at the different levels would ensure that human and financial

resources are allocated to the projects until they are able to reach a break-even point. Involving local people (and especially vulnerable groups) in projects and making them directly benefit from the benefits of the projects can sustain its achievements. This issue can be considered as important as involving all stakeholders on national and local scale.

Risks for the project implementation involve the often difficult and slow enforcement and execution mechanisms within the Caspian Sea countries as well as the international sanctions imposed on the Islamic Republic of Iran which may hamper financial transactions to and from the country. Moreover, the recent conflict in the Nagorno-Karabakh Region might have an impact on the capacities of the Republic of Azerbaijan as national development priorities might shift.

L. Environmental and Social Impacts and Risks identified

The proposed regional programme with its project components seeks to fully align with the Adaptation Fund's Environmental and Social Policy (ESP) as well as the Gender Policy (GP). For the Project Proposal development, the entire programme, project components and activities have been screened to identify potential environmental and social risks and impacts using the 15 Adaptation Fund Principles as well as UN-Habitat's nine Environmental and Social Principles, and two cross-cutting themes, which make up the UN-Habitat Environmental and Social Safeguards Systems. For the potential risks and impacts identified, mitigation measures have been proposed. This full assessment is provided in Annex 6. Compliance will be ensured throughout the implementation of the programme and monitoring of safeguards, especially for the concrete interventions under Component 3 will be undertaken. Components 1, 2 and 4 are categorized as category C given that the focus is on data, knowledge, capacity and coordination and does not require physical interventions in the communities. However, the environmental and social principles which the safeguards promote – especially for gender equality and women's empowerment, protection of natural habitats, biodiversity conservation, access and equity, marginalized and vulnerable groups, and climate change – will be considered in any guidelines, recommendations, studies, planning or capacity building efforts to ensure these principles are consistently espoused and applied.

All physical works activities in the project will be undertaken under Component 3. These activities carry the risk of causing environmental and social impacts. As the activities implemented under the project will be local and small scale, it is deemed that they are not 'Category A' risks. All activities implemented under Component 3 are, therefore, Category B. The table below shows which outputs have risks aligned with the Adaptation Fund's Environmental and Social Principles as well as the summary of the assessment and screening for the impact should the intervention violate the environmental and social principles and the likelihood of this happening. Based on this screening on a scale of 1-5, with 5 being the highest, the combined score is then used to assess the significance with 8-10 assessed as high, 5-7 as medium and 2-4 as low. Annex 6 has a full assessment of safeguards risks for both Adaptation Fund and UN-Habitat.

Table 10. Project Screening and Categorization of the Adaptation Fund's Environmental and Social Principles

Adaptation Fund Environmental and Social Principles	Assessment	Impact (1-5)	Likeli-hood (1-5)	Significance (L/M/H)	Potential Impacts and Risks, by Output – Management Measures required for compliance
1. Compliance with the Law	This correlates with UN-Habitat principle 8 Compliance with the law and Cross-cutting Thematic Area 2: Safety. The installation of drainage infrastructure in Iran as part of output 3.6 has a potential risk related to infrastructure from the project alignment with local regulations	3	1	L	3.6
2. Access and Equity	This aligns with UN-Habitat Principle 9: Access and Spatial Justice and given that benefits from the project will not be distributed to the entire of the city but rather only demonstration sites in Baku, Astara AZ, Bandar-e-Kiashar unequal distribution of benefits is possible.	4	4	H	3.1, 3.3, 3.4, 3.5, 3.6

3. Marginalized and Vulnerable Groups	This correlates to UN-Habitat Social Inclusion Issue 3: Children, Youth and Older Persons and Social Inclusion Issue 4: Disability. The interventions do not have foreseen negative impacts or discrimination against marginalized and vulnerable groups, including people with disabilities but the EWS systems for Neftchala and Bandar-Torkaman need to be designed to ensure persons with disabilities will have access to information.	3	2	M	3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
4. Human Rights	The UN-Habitat Social Inclusion Issue 1: Human Rights asks whether this will result in any violation of human right, however the Adaptation Fund principle goes beyond to include promote international human rights. Given the UN agencies as Executing Entities and the ratification of major human rights treaties by both countries, the proposed interventions should not violate any human rights however it would be difficult for the interventions to actively promote human rights	5	3	H	3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
5. Gender Equity and Women's Empowerment	In alignment with UN-Habitat Social Inclusion Issue 2: Gender, which asks whether this will have negative impacts on girls and women. It is not foreseen that the interventions would have a negative impact however the second question is on any form of discrimination against girls and women and given the low gender parity rankings in the country, there is certainly this risk.	4	4	H	3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
6. Core Labor Rights	This aligns with UN-Habitat Principle 1: Labour and working conditions. Given the Un agencies as Executing Entities, all contracts will ensure that core labour standards are met and worker's rights are not violated and there is no forced or child labor.	3	1	L	
7. Indigenous Peoples	The interventions will not have an impact on the rights, lands, resources and territories of indigenous peoples (aligned with UN-Habitat Principle 6)	1	1	L	
8. Involuntary Resettlement	Aligned with UN-Habitat Principle 4: Displacement and involuntary resettlement, this was used as a screening criteria to determine which interventions to pursue. All interventions are on public land to avoid any resettlement issues.	3	1	M	
9. Protection of natural Habitats	Output 3.5 will involve tree planting in a coastal area and Output 3.6 has drainage involved which have the potential to adversely impact on natural and marine habitats. Interventions were chosen to avoid damage to critical habitats. Project sites were chosen at a distance from legally protected areas (UN-Habitat Principle 5: Biodiversity conservation, and sustainable management of living natural resources)	4	3	M	3.5, 3.6
10. Conservation and Biological Diversity	Project sites were chosen at a distance from legally protected areas. Native species will be utilized for output 3.1 and 3.5 to avoid any introduction of invasive species. Given the already degraded state of the Caspian Sea and the current decline for fish species, ensuring this project will	4	3	M	3.1, 3.5

	not further loss of biodiversity is central to the approach.				
11. Climate Change	Interventions chosen are not energy intensive	2	2	L	3.1, 3.5
12. Pollution Prevention and Resource Efficiency	Output 3.1 3.1 will need to involve remediation of soil where former rail lines were in place and have been in disuse; Output 3.1 and 3.5 may use fertilizers; Output 3.1 and 3.5 will involve planting of new flora	4	4	H	3.1, 3.5
13. Public Health	Investments 3.1 and 3.6 will be undertaken in neighbourhoods with residential dwellings and commercial establishments so mitigation measures will need to be in place during construction to ensure no adverse impact on public health	4	2	M	3.1, 3.6
14. Physical and Cultural Heritage	Project sites are not in areas with cultural heritage properties	1	1	L	
15. Lands and Soil Conservation	Outputs 3.1 and 3.5 will involve conversion of land however the current land would not be classified as productive; Output 3.6 will involve digging up soil to install drainage that will deposit into river sediment areas	2	3	M	3.1, 3.5, 3.6

PART III: IMPLEMENTATION ARRANGEMENTS

A. Arrangements for Programme Management at regional and national Level

This section elaborates on the implementation arrangements of regional, national and local components of the "Urbanisation and Climate Change Adaptation in the Caspian Sea Region" Programme. In the spirit of One UN, the three organizations, UN-Habitat, UNEP, and IOM, lead the execution of the programme which includes designated responsibility for the assigned components, ensuring project impacts, delivery of products, and take accountability for the project expenditures.

Accountability to the donor will be ensured by UN-Habitat as the accredited Multilateral Implementing Entity and signatory of the contract. UN-Habitat is the Implementing Entity of the project. The Executing Entity for Component 1 and 4 is UNEP. In the Republic of Azerbaijan, UN-Habitat is the executing Entity for Component 2 and IOM for Component 3. UN-Habitat is the Executing Entity for Component 2 and 3 in the Islamic Republic of Iran. The oversight of UN-Habitat, UNEP and IOM will work closely to ensure that all gathered project impacts, products and data are transited to the AF on a regular basis. The programme will closely collaborate with the United Nations Resident Coordinators Offices (RCOs) in all Caspian Sea littoral states. Moreover, the regional programme will in its country level project components closely coordinate with the respective United Nations Country Teams (UNCTs) and closely collaborate with specific relevant UN agencies, such as the United Nations Development Programme as well as the Food and Agriculture Organization of the United Nations.

Table 11. Executing Entities and legal agreements for overall regional Programme and national level Project Components in the Republic of Azerbaijan and the Islamic Republic of Iran

Executing Entity	**Component 1: Regional level**	**Component 2: National level**	**Component 3: Local Level**	**Component 4: Upscaling**
Regional Level	UNEP, Tehran Convention and its Secretariat (UN-to-UN Transfer Agreement*)			UNEP, Tehran Convention Interim Secretariat (UN-to-UN Transfer Agreement*)
Republic of Azerbaijan		UN-Habitat	IOM (UN-to-UN Transfer Agreement*)	
Islamic Republic of Iran		UN-Habitat	UN-Habitat	

**reference: https://unsdg.un.org/resources/un-un-transfer-agreement*

For the respective programme components, the following office arrangements will be established:

- Overall programme management: UN-Habitat Headquarters at Nairobi, Kenya;
- Component 1 - Regional level: UNEP, Tehran Convention and its Secretariat at Geneva, Switzerland;
- Component 2 - National level: (a) Republic of Azerbaijan – establishment of an UN-Habitat office at Baku, Republic of Azerbaijan; (b) Islamic Republic of Iran at Teheran - UN-Habitat office at Teheran, Islamic Republic of Teheran;
- Component 3 - Local Level: (a) Republic of Azerbaijan – IOM office at Baku, Republic of Azerbaijan; (b) Islamic Republic of Iran at Teheran - UN-Habitat office at Teheran, Islamic Republic of Teheran;
- Component 4 - Upscaling: UNEP, Tehran Convention and its Secretariat in Geneva, Switzerland.

Based on the initial steering of the regional programme from UN-Habitat's global headquarter in Nairobi, Kenya and supported by UN-Habitat's Regional Office for Asia Pacific located in Fukuoka, Japan, the intention is to locate the regional programme management to the Caspian Sea region, to be determined by the Teheran Convention Member States. The Project Office would be staffed by both UN-Habitat and the Tehran Convention Interim Secretariat (UN Environment Programme). The latter will coordinate the execution of the regional components. The programme will leverage the existing networks and resources available in all Caspian Sea littoral countries as well as in both intervention countries, and in the Islamic Republic of Iran would reinforce the resources of the team

by hiring further staff that would oversee the implementation and monitoring of the national component.

Project Governance Structure

As a mechanism for guiding the programme implementation and for monitoring of progress, one overall Programme Advisory Committee and three Technical Advisory Mechanisms will be established: (1) Programme Advisory Committee (PAC); (2) Regional Technical Advisory Committee (RTAC); and (3) National Technical Advisory Committees (NTAC in Republic of Azerbaijan and Islamic Republic of Iran) for internal coordination and implementation purposes.

Programme and Technical Advisory Committees:

The programme will be guided by a Programme Advisory Committee (PAC) comprising of a representative from each of the five Caspian Sea littoral states, UN-Habitat, UNEP, IOM, and other relevant stakeholders (research community, academia, civil society, private sector). While both designated authorities to the Adaptation Fund to the Republic of Azerbaijan and the Islamic Republic of Iran are chair and co-chair of the PAC, the Programme Manager will represent the secretariat function. The chair and co-chair of the PAC will be able to recommend additional participants, based on the suggestions by the PAC. The PAC will provide adaptive management guidance based upon programme progress assessments and recommendations from the PMU. The PAC will review and approve annual programme reviews and workplans as well as technical documents. Moreover, the PAC will provide general strategic and implementation guidance to the PMU. At minimum, it will meet annually, make consensus-based recommendations, and liaise closely with the Tehran Convention Interim Secretariat and its Executive Body. The roles of the Project Advisory Committee are as follows:

- Review of programme and project proposals;
- Provide technical and operational input to the implementation of the programme;
- Discuss and propose draft strategies developed within the framework of the programme;
- Endorse final reports (deliverables) from programme experts and consultants;
- Approve (Annual) Project Workplan and any changes thereto, in accordance with UN-Habitat, UNEP, IOM and AF guidelines;
- Review programme activities to assess progress, and review Progress Reports;
- Review deviations and suggest amendments to workplans and contractual arrangements; and
- Any other issues brought before the PAC by one of its members.

The Programme Manager will closely coordinate the programme with the PAC, in terms of overall programme and project coordination, endorsing of regional and national level project components, implementation of regional activities and monitoring of those as well as highlighting lessons learnt from both programme and project activities. The PAC members represent five Caspian Sea littoral states - Islamic Republic of Iran, Kazakhstan, Republic of Azerbaijan, Russian Federation and Turkmenistan. They will closely coordinate with national ministries and revert to policy makers in their respective countries for upscaling of lessons learnt from the project components in the Republic of Azerbaijan as well as the Islamic Republic of Iran. It will identify the relevant national partners for regional project activities, capacity building measures and peer-to-peer exchanges. Moreover, the PAC will foster potential partnerships of the programme with regional institutions and other key stakeholders. Detailed Terms of Reference will be drafted at the commencement of the regional programme.

Project Management Unit (PMU):

UN-Habitat, UNEP and IOM will establish a joint Project Management Unit (PMU), comprising of all relevant managerial, technical and administrative personnel, supported by consultants (international, regional and local). The composition of the PMU is presented in Figure 1. The PMU will support the three Agencies equally and be accountable to them. The PMU will manage and coordinate the day-today operations of the programme and project activities, including issuing necessary institutional agreements and contracts, arranging necessary travels, organizing meetings and communicating with national and local stakeholders. Furthermore, the PMU will prepare all necessary progress, review and financial reports to be submitted to the Project Advisory Committee and Technical Advisory Committees, AF as well as national and local governments in both the Republic of Azerbaijan and the Islamic Republic of Iran. Further, the PMU will prepare the necessary documents to be submitted to and considered by the Regional and National Project Advisory Committees such as draft annual

workplans and budget expenditure. The PMU will also be responsible for managing non-expendable equipment and expendable resources for the project.

The Programme Management Unit comprises of all managerial, technical, administrative and financial staff relevant to the implementation of the regional programme component as well as the national and local project components implemented in the Republic of Azerbaijan and the Islamic Republic of Iran.

The overall programme management comprises of a Programme Manager (P4), the Regional Component Manager (P3) as well as a Programme Assistant (national) and a Senior Advisor to Programme Manager (regional consultant). Supported in the overall programme management by a 'UNHabitat headquarters'-based Programme Management Officer (P3), supported by a Baku-based Administrative Assistant (G5).

Each of the national project components comprises of a Project Managers (national component) and a Project Assistants (national), technically supported by a Senior Advisor to the Project Manager (consultants), a Communication and Advocacy Officer as well as a Monitoring and Evaluation Officer. The PMU is supported by Project Management/ Logistic Assistants in both project locations as well as Community/ Filed Officers.

Figure 15. Overview of Implementation Modalities for overall regional Programme and national level Project Components in the Republic of Azerbaijan and the Islamic Republic of Iran.

Regional Programme Component:

The regional component of the programme will be executed under the supervision of the Tehran Convention Interim Secretariat which is supported by the UNEP Regional Office for Europe (ROE). In this regard a Regional Component Manager will be recruited by UNEP (P3) responsible for the coordination of the implementation of the activities under the regional component will be based in Baku, Republic of Azerbaijan and embodied in both the Programme Management Unit (PMU) and the Tehran Convention Interim Secretariat. The Tehran Convention Coordinator will report to the overall Programme Manager and the Coordinator of the Tehran Convention Interim Secretariat (TCIS).

National focal points (NFP) for the five littoral states under the regional component of the programme will be nominated by the Caspian countries' governments and will be employees of the relevant national institutions. The NFPs will coordinate the relevant work on the national level which will feed into the implementation of the regional component. NFPs shall be officials of

Ministries responsible for environmental protection. NFPs will be supported by the regional component project associates (RCPAs), whose role will be to facilitate the implementation of the regional component at the national level. RCPAs will be hired under the project and will be supervised by the Regional Component Manager. They will closely cooperate with the PMU, build and maintain mutually beneficial relationships, facilitate communications and coordinate activities among different stakeholders. RCPAs will also closely work and consult with National Convention Liaison Officers (NCLO).

Regional programme activities will be executed by the Tehran Convention Interim Secretariat as part of the UN Environment Programme. UN-Habitat and UNEP will engage their substantive colleagues at headquarter, regional and country level. UN-to-UN Transfer Agreement will be signed at the onset

of the programme implementation stage. Moreover, ad hoc consultants will be contracted to develop required technical documents as indicated in the project workplan. The Regional Component Manager will receive support from the PMU and UNEP ROE.

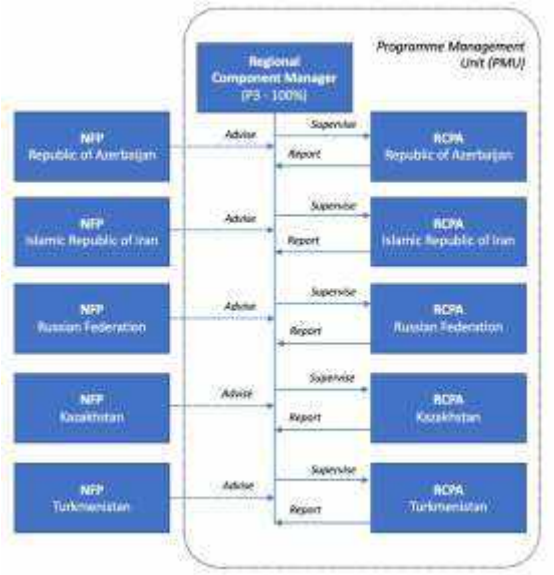


Figure 16. Overview of Implementation Modalities for regional Programme Component

National Project Component – Republic of Azerbaijan:

The overall management of the national level project component of the regional programme in the Republic of Azerbaijan will be conducted by a full-time Project Coordinator level with a strong technical background in the environment, climate change and urbanization fields and knowledge of country level United Nations operations. (S)he will be supported by a part time Senior Technical Advisor knowledgeable about the national environment and climate change as well as urbanization dimensions. A Technical and Management Team will provide essential result-based management support. It comprises of national personnel such as a Project Assistant, a Communication and Advocacy Officer, a Monitoring and Evaluation Officer as well as a Project Management/ Logistic Assistant. IT support will be extended by the regional programme. The project will be implemented in close collaboration with the UN Resident Coordinator in the Republic of Azerbaijan.

The Project Coordinator will closely coordinate the project with the National Technical Advisory Committee (NTAC – A) in the Republic of Azerbaijan, in terms of the national components of the regional programme. The main engagement of the NTAC - A will be on project coordination, endorsing national level project components, implementation of local initiatives and monitoring of those as well as highlighting lessons learnt from project activities for upscaling at regional level. The NTAC - A will closely coordinate with the PAC, particularly with regard to environment, climate change and urbanization fields as well as with respective national ministries among the various countries and revert to policy makers. It will identify the relevant national partners for regional project activities, capacity building measures and peer-to-peer exchanges. Moreover, the NTAC - A will foster potential partnerships of the project with national institutions and other key stakeholders. Detailed Terms of Reference were drafted.

National and local project activities will be supervised and coordinated by UN-Habitat, IOM, UNEP and the Tehran Convention Interim Secretariat, in close collaboration with the RCO and UNCT in the Republic of Azerbaijan. All entities will engage their substantive colleagues at headquarters, regional and country level. UN-to-UN Transfer Agreements will be signed at the onset of the project implementation stage.

National Component – Islamic Republic of Iran:

The overall management of the national level project component of the regional programme in the Islamic Republic of Iran will be conducted by a full-time Project Coordinator with a strong technical background in the environment, climate change and urbanization fields and knowledge of country level United Nations operations. (S)he will be supported by a part time Senior Technical Advisor knowledgeable about the national environment and climate change as well as urbanization dimensions. A Technical and Management Team will provide essential result-based management support. It comprises of national personnel such as a Project Assistant, a Communication and Advocacy Officer, a Monitoring and Evaluation Officer as well as a Project Management/ Logistic Assistant. IT support will be extended by the regional programme. The project will be implemented under the stewardship of the UN-Habitat country office in Tehran, in close collaboration with the UN Resident Coordinator in the Islamic Republic of Iran.

The national Project Coordinator will closely coordinate the project with the National Technical Advisory Committee (NTAC – I) in the Islamic Republic of Iran, in terms of the national components of the regional programme. The main engagement of the NTAC - I will be on project coordination, endorsing national level project components, implementation of local initiatives and monitoring of those as well as highlighting lessons learnt from project activities for upscaling at regional level. The NTAC - I will closely coordinate with the PAC, particularly with regard to environment, climate change and urbanization fields as well as with respective national ministries among the various countries and revert to policy makers. It will identify the relevant national partners for regional project activities, capacity building measures and peer-to-peer exchanges. Moreover, the NTAC - I will foster potential partnerships of the project with national institutions and other key stakeholders. Detailed Terms of Reference were drafted.

National and local project activities will be implemented by UN-Habitat as Executing Entity, in close collaboration with the RCO and UNCT. UN-Habitat will engage substantive colleagues at headquarter, regional and country level.

B. Financial and Programme Risk Management

Under guidance of the regional Programme Manager, supported by the national Project Coordinators, Monitoring and Evaluation Officers will monitor the status of financial and project management risks, including those measures required to avoid, minimise or mitigate these risks, throughout the project. Table 12 indicates potential risks, likelihood and impact.

Table 12 Overview of financial and management risks and measures to mitigate these

Potential Issues	Likelihood (1-5)	Impact (1-5)	Mitigation Measures	Indicator to verify
Institutional				
1. Delay of project start-up because critical staff is not in place and/ or lengthy contracting process, incl. negotiations with execution entities	3 – medium	3 – medium	Staffing table and recruitment strategy outlined with concrete timelines to avoid delays in commencing the programme.	Existence of recruitment strategy (y/n)
2. Loss of Government support for programme, project and activities due to elections and related functions due to lack of prioritisation of AF project activities or different pace of execution of activities	1 – Low	3 – medium	Technical staff at execution level in sector ministries and local governments to be engaged in all aspects of programme development and implementation; utilize role of UNRCO and UNCT in ensuring consistency of programme implementation.	Core project implementation functions and role of PAC outlined (y/n) National Technical Experts engaged in project team (y/n)
3. Lack of coordination between and within national government Ministries and Departments and municipalities.	2 – Low	3 – medium	NTAC-A & NTAC-I to address coordination of sector ministries towards enhanced collaboration to achieve expected accomplishments.	Terms of Reference for NTAC-A & NTAC-I outline coordination mechanisms and indicate mitigation measures (y/n)
4. Capacity constraints of executing entities, local institutions, communities and the private sector may	1 – Low	3 - medium	UN agencies identified as executing entities based on capacity assessment with technical experience in	Capacity assessment addresses constraints of executing entities(y/n)

limit the effective implementation of interventions			executing similar sized thematic projects	
5. Communities may not adopt activities during or after the AF project, including infrastructure maintenance	2 – Low	4 – High	Identify potential threats to adoption challenge in sustainability strategy for climate change adaptation measures to address livelihood dimension and maintenance components.	Sustainability strategy outlines sustainability of livelihood generation and maintenance components for climate change adaptation interventions at community level (y/n)
Financial management and Requisite Institutional Capacity				
6. Complexity of financial management and procurement. Administrative processes could delay the project execution or could lack integrity or needed capacity.	2 – Low	2 – Low	Challenges to delay of project execution to be assessed at the onset of the programme implementation and measures adopted in financial management and procurement strategy.	Financial management and procurement strategy outlines mitigation measures for potential implementation challenges (y/n)
7. Inflation and instability of the national currency leading to budget issues and increased prices for infrastructure delivery.	3 – Medium	1 – Low	Monitoring of potential threats to stability of national currency as part of the UN Development System, systemic response to this challenge recommended.	Financial management and procurement strategy
Physical				
8. Covid-19 protocols restrict movement to and in the target areas	3 – Medium	4 – High	Programme will have to assess and outline a Covid-19 engagement strategy with national, regional and local partners.	Covid-19 Partner Engagement Strategy developed (y/n)

C. Measures for the Management of Environmental and Social Risks

The proposed project seeks to fully align with the Adaptation Fund's Environmental and Social Policy (ESP). For that purpose, environmental and social risks and impacts of the project and related activities need to be identified and addressed (so that the project does not unnecessarily harm the environment, public health or vulnerable communities).

To ensure that remaining risks are well managed the project management and governance (Part III. Section A), Monitoring and Evaluation (Part III. Section D) fully take into account the management of environmental and social risks. The Environmental and Social Management Plan (ESMP) in Annex 6 has been developed to ensure full compliance with the Adaptation Fund's Environmental and Social and Gender Policies.

The ESMP for this project, detailed in Annex 6 identifies measures and actions that reduce potentially adverse environmental and social impacts to acceptable levels. The plan includes compensatory measures, if applicable. Specifically, the ESMP.

(i) Identifies and summarizes all anticipated adverse environmental and social impacts in line with the Adaptation Fund's ESP principles;

(ii) Describes mitigation measures, both from the perspective of mitigating risks at each activity and from the perspective of upholding all ESP principles;

(iii) Describes a process which supports the screening and assessment of all project activities and the conditions under which screening and mitigation action is required;

(iv) Clearly assigns responsibilities for screening, assessment, mitigation actions and, approval and monitoring;

(v) Takes into account, and is consistent with, other technical standards required for the project in particular those that relate to national law.

It should also be noted that each investment that forms a part of Component 3 has been designed to provide environmental and social benefits, based on the Environmental and Social Policy of the Adaptation Fund.

For the activities under the three components of the project, the ESP will be upheld by ensuring that:

(i) All UN-to-UN Transfer Agreements, MoUs and Agreements of Cooperation with the Executing Entity will include detailed reference to the ESMP and in particular the 15 ESP Principles.

(ii) The ToR of regional and national Committees and Advisory Groups, project personnel and focal points will include detailed reference to the ESMP and in particular the 15 ESP Principles.

(iii) The Executing Entity and other relevant government agencies will receive training / capacity development to understand the 15 Principles, the ESMP and in particular their responsibilities.

(iv) A Monitoring and Evaluation Framework will be developed by the project management team and presented for approval to the Programme Advisory Committee.

(v) All project monitoring will have the 15 environmental and social principles, and the ESMP Strategy mainstreamed into it. In addition to upholding the ESP of the Adaptation Fund and to familiarize all project stakeholders with the 15 ESP principles, this will also ensure that all stakeholders fully take ownership of the environmental and social safeguards procedures of the project and that any activity that may have been altered or not yet assessed in detail are captured.

(vi) A grievance mechanism is also part of the plan. This will allow any affected stakeholder to raise concerns, anonymously if they wish, to the community leaders on the local coordinating committee, and the project team. The primary alternative means for affected beneficiaries and/or community members to raise grievances confidential via telephone number. In addition to the grievance mechanism, local staff will be trained to have an 'open-door' policy with communities, so that communities can discuss any aspect of the project at any time. This less formal mechanism will also enable project staff to listen to communities' concerns or ideas and promote them in the implementation of the project. More formal consultations and workshops held at local and national levels throughout the project implementation will also serve as a means for stakeholders to raise concerns or make suggestions with regards to the project's implementation.

D. Arrangements for Monitoring, Reporting and Evaluation

The Monitoring and Evaluation (M&E) arrangements for this regional programme will be in compliance with the Adaptation Fund M&E Guidelines as well as the Environmental and Social Policy (ESP) and Gender Policy (GP). Moreover, it will follow the principles for M&E as outlined in UN-Habitat's Evaluation Policy (2013) and Evaluation Manual (2018). They adhere to the UN system standards and norms for evaluation, which are in line with the OECD/DAC criteria for evaluation.

Based on the Adaptation Fund Results Framework and Theory of Change, the regional programme will establish a M&E Framework and Plan, with country level M&E project components, including the following key considerations: (1) baseline data and targets; (2) programme and project milestones; (3) financial data; (4) procurement data; (5) risk assessment; (6) ESP compliance; (7) GP compliance; (8) programme and project indicators; and (9) lessons learnt. The M&E of progress in achieving programme and project results will be based on targets and indicators.

The M&E Framework takes into account the early stages of implementation of the programme and its respective country and regional project components. There are three levels of evaluation recommended:

Annual Programme and Project Performance Reports (PPRs) will include a section on the status of implementation of any Environmental and Social Management Plan, 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.

Mid-term Evaluation: As the programme is envisaged to be implemented over the period of 4 years, a Mid-term Evaluation will be conducted after the completion of the second year. It will be conducted by an independent team of consultants (composed of international and national experts) who will critically assess the initial outputs and results of the programme and respective project components. This will enable an assessment of the quality of programme implementation. Major changes to the objectives and expected outcomes of the programme will be communicated to the AF Secretariat.

Final Evaluation: The programme will conduct a Final Evaluation after the end of its implementation. The evaluations will be undertaken independent of programme and/ or project management. It will assess, at a minimum, the following: (1) achievements of programme and project outcomes; (2) evaluation of risks to sustainability; and (3) processes influencing achievement of results, including financial management. Moreover, the Final Evaluation will include an evaluation of the project's performance with respect to environmental and social risks. The cost of Mid-term and Final Evaluations will be covered by the programs M&E Framework.

UN-Habitat will ensure timely and high-quality M&E by keeping oversight of the process and providing guidance to the Project Execution Entities and national government partners through full briefings of

M&E requirements. Where possible, the M&E process will be participatory, involving key stakeholders at regional, national, local and community levels. Programme and project activities will be monitored and endorsed by the regional programme and national project steering committees and comply with the AF ESP and GP. Audits of the programme/ project financial management will follow AF regulations and rules and applicable audit policies. The M&E Plan will be implemented as proposed in table 13.

Table13.Monitoring and Evaluation Plan

Type of M&E activities	Responsible Parties	Time Frame	Budget
Inception Meeting and Programme/ National Technical Advisory Committee Meetings	Programme Manager, Project Team, UN-Habitat	Inception meeting within first 3 months, annual PAC and biannual NTACs	Inception meetings: regional – online (1.000 USD); national – in person (2.000 USD) PAC: rotating between countries (7.500 USD) NTAC: (6.000 USD)
			Sub-Total: 16.500 USD
Direct Project Monitoring and Quality Assurance, including progress and financial reporting, and risk management	Programme Manager, Project Team, UN-Habitat	Quarterly, half-yearly and annually as needed	In addition to Monitoring and Reporting Officer renumeration (including translation, layout and publishing); quarterly report (8.000USD); annual report (2.000 USD)
			Sub-Total: 10.000 USD
Compliance with ESP and GP	Programme Manager, Project Team, UN-Habitat	Annually	In addition to Monitoring and Reporting Officer renumeration (including translation, layout and publishing); annual report (3.000)
			Sub-Total: 3.000 USD
Audits	Programme Manager, Project Team, UN-Habitat	Annually at year end	Conducted by AF, supported by UN-Habitat HQ
			Sub-Total: not applicable
Mid-term and Final evaluations	Programme Manager, roject Team, UN-Habitat, External consultants	At midpoint and then no later than 3 months upon termination of the project	Mid-term evaluation: (10.000 USD); final evaluation (35.000 USD)
			Sub-Total: 45.000 USD
Community consultations/ workshops/ trainings	Programme Manager, Project Team, IOM/ UNHabitat	Quarterly, half-yearly and annually as needed	As part of ongoing pilot initiatives
			Sub-Total: not applicable
Visit to field sides	Programme Manager, Project Team, IOM/ UNHabitat	Quarterly, half-yearly and annually as needed	As part of ongoing pilot initiatives
			Sub-Total: not applicable
			Total: 74,500 USD

For the M&E budget and a breakdown of how implementing entity fees will be utilized in the supervision of the M&E function, please see the detailed budget (Part III, Section G). For related data, targets and indicators, please see the project proposal results framework (Part III, Section E).

Participatory monitoring mechanisms (involving different levels of government and communes) will be put in place for the collection and recording of data to support the M&E of indicators. The project formulation has gathered demographic data (some of which is in this public domain) and generated maps through Google Maps and Google Earth, which will be handed over to the PAC for use in the project, including in monitoring.

The communes will be involved in further data collection and in community consultations in data analysis. This will allow beneficiary communes to work directly with the project's M&E mechanism, to highlight issues in project delivery and to strengthen adaptation benefits, including in replication and sustaining the project's gains. Data collected will include marginalized groups (e.g., women) aggregated (if possible). Project site visits will be jointly conducted based on an agreed schedule to assess project progress firsthand.

The Project Manager will develop an **M&E Plan** during the project's inception phase, which will be distributed and presented to all stakeholders during the initial workshop. The emphasis of the M&E plan will be on (participatory) outcome/result monitoring, project risks (financial & project management risks and environmental social safeguard risks) and learning and sustainability of the project. Periodic

monitoring will be conducted through visits to the intervention sites. UN-Habitat will ensure that all executing partners are fully briefed on the M&E requirements to ensure that baseline and progress data is fully collected and that a connection between the Knowledge Management component and M&E is established. The Agreement of Cooperation will also reflect these.

An **Annual Project Performance Review** (PPR) will be prepared to monitor progress made since the project's start and in particular for the previous reporting period. The PPR includes, but is not 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; annual management; environmental and social risks (i.e. status of implementation of 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; and project financial and management risks (same as per above).

The **reports** that will be prepared specifically in the context of the M&E plan are: **(i) M&E plan; (ii) project inception report; (iii) the annual-, and terminal project performance reports, and (iv) the technical reports.**

For the M&E budget and a breakdown of how implementing entity fees will be utilized in the supervision of the M&E function, please see the detailed budget (Part III. Section G). For related data, targets and indicators, please see the project proposal results framework (Part III, Section E).

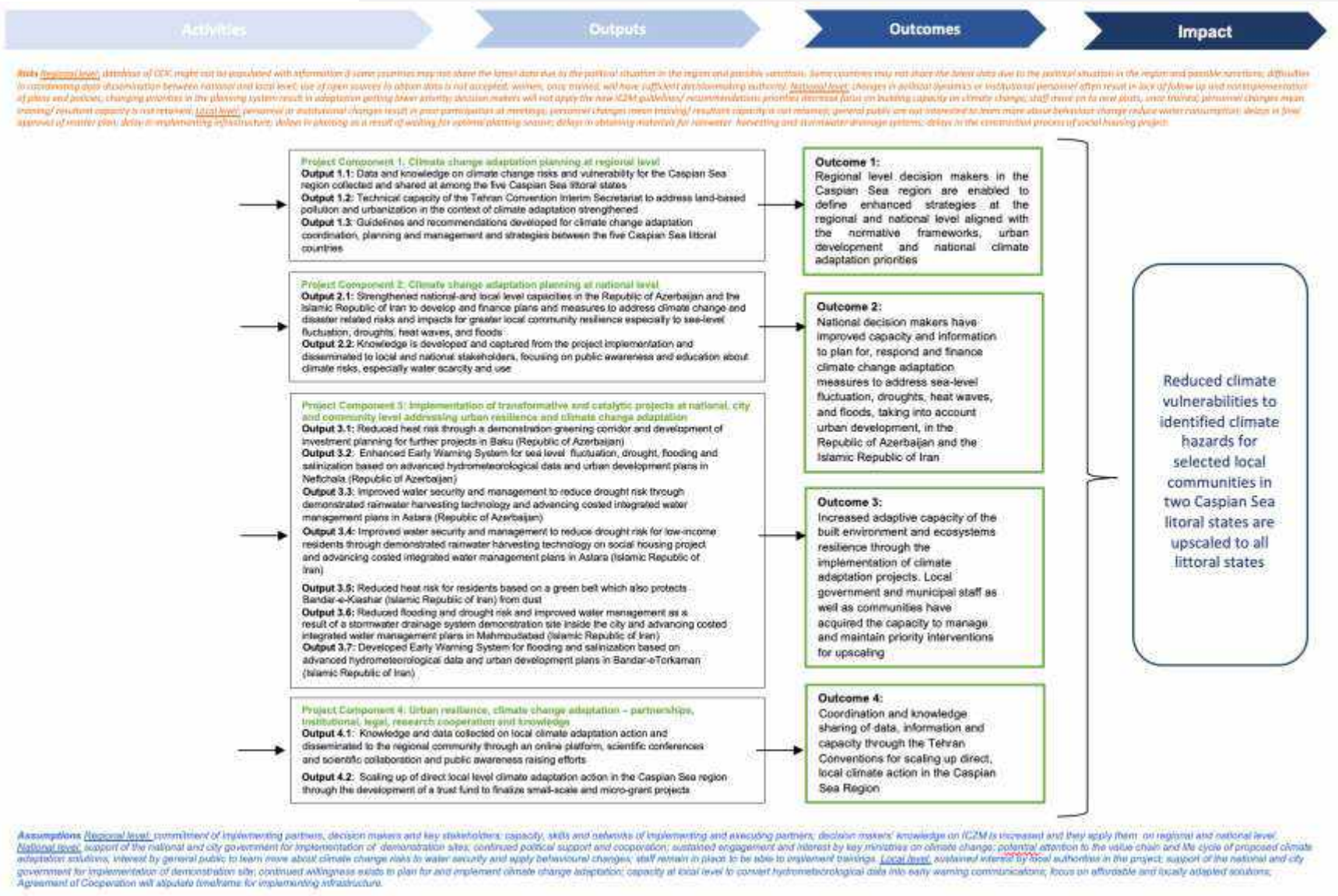
To **monitor the status of financial and project management risks,** it is important to have a systematic and ongoing process in place. The following steps are suggested:

- Identification of financial and project management risks, including the potential financial and project management risks associated with a project (i.e. budget and/ or cost overruns, delays, and unanticipated expenses).
- Development of risk management plan, including assessment of likelihood and impact of each identified risk, as well as strategies for mitigating or managing each risk.
- Establishment of monitoring and escalation procedures, including regular reporting and monitoring processes to track status of each risk, and defining escalation procedures for when a risk exceeds predetermined threshold.
- Monitoring of risks on a monthly and/ or quarterly basis, reviewing status of each risk and recommend necessary adjustments to risk management if required.
- Escalation of risks when a risk exceeds predetermined threshold, escalation procedure to be triggered, and appropriate parties notified. This may involve updating key stakeholders, modifying project plan, or seeking additional resources to address risk.

Documentation of risk management activities, including monitoring and escalation procedures to ensure accountability and transparency.

E. Project Proposal Results Framework

Theory of Change



Results Framework

Expected Results	Indicators	Baseline data	Targets	Means of Verification (when and how)	Risks & Assumptions	Frequency	Responsibility
COUNTRIES: Caspian Sea littoral countries - regional component							
Project Component 1: Climate change adaptation planning at regional level							
Outcome 1: Regional level decision makers in the Caspian Sea region are enabled to define enhanced strategies at the regional and national level aligned with the normative frameworks, urban development and national climate adaptation priorities	Guidelines for existing policies revised and database for information exchange developed	5 Caspian Sea littoral countries do not have a unified database and existing climate adaptation and urbanization policies require adjustment	At least 10 regional and national guidelines received recommendations to respond to current climate adaptation priorities	Regional meetings, informal discussions, existing reports	R. Changes in political dynamics or institutional personnel often result in lack of follow up and nonimplementation of plans and policies A. Continued political support and cooperation	Baseline, midterm, and end	UNEP -TCIS
Output 1.1: Data and knowledge on climate change risks and vulnerability for the Caspian Sea region collected and shared at among the five Caspian Sea littoral states	No of digital tools and models developed on climate change risks and vulnerabilities for the Caspian Sea region	5 Caspian Sea littoral countries do not have a unified database and existing climate adaptation and urbanization policies require adjustment	At least 5 new digital maps (or other tools) of the current trends short- and longterm perspectives on major elements of climate change including changes in temperature, precipitation and climate events and hazards characteristics and timing and their implications for coastal settlements developments, agriculture, forestry, and biodiversity were prepared and added to the database	R. Some countries may not share the latest data due to the political situation in the region and possible sanctions A. It is possible to use the open sources to obtain data.	Regional meetings, informal discussions, existing reports	Baseline, midterm, and end	UNEP -TCIS
Output 1.2: Technical capacity of the Tehran Convention Interim Secretariat to address land-based pollution and urbanization in the context of	No of trainings and workshops for TC Secretariat staff to address land-based pollution and urbanization	The Tehran Convention staff does not have sufficient capacity to implement the	Staff of TC is capacitated with trainings and workshops	R. Personnel changes mean training/resultant capacity is not retained. A. Continued political support and cooperation	Workshop reports	Annual	UNEP -TCIS

climate adaptation strengthened		activities to address land-based pollution and urbanization					
Output 1.3: Guidelines and recommendations developed for climate change adaptation coordination, planning and management and strategies between the five Caspian Sea littoral countries	No of guidelines and recommendations that were developed	There are currently no cohesive guidelines for climate change adaptation coordination, planning and management and strategies between the five Caspian Sea littoral countries	At least 5 ICZM guidelines/ recommendation are developed and applied	R. Decision makers will not apply the new ICZM guidelines/recommendations A. Decision makers' knowledge on ICZM is increased and they apply them on regional and national level	The guidelines	Baseline and end	UNEP -TCIS
Project Component 2: Climate change adaptation planning at national level							
Outcome 2: National decision makers have improved capacity and information to plan for, respond and finance climate change adaptation measures to address sea-level fluctuation, droughts, heat waves, and floods, taking into account urban development, in the Republic of Azerbaijan and the Islamic Republic of Iran	Capacity of national decision makers to respond to and finance climate change adaptation measures in urban areas increased	National decision makers have some awareness of climate risks but limited knowledge on preferred, costeffective strategies, for addressing climate change, especially in urban areas and at the local level	National decision makers in at least five ministries (in each country) are aware of climate change impacts, potential adaptation measures to build urban resilience and financing options for such measures	Awareness and common understanding scorecards to be developed in Year 1. Knowledge, Attitude and Practice (KAP) surveys to be carried out with staff in national ministries in year 1, immediately prior to mid-term review and immediately prior to final review	(R) Changing national priorities decrease focus on building capacity on climate change (A) Sustained engagement and interest by key ministries on climate change	Baseline, mid-term and end	UN-Habitat
Output 2.1: Strengthened national-and local level capacities in the Republic of Azerbaijan and the Islamic Republic of Iran to develop and finance plans and measures to address climate change and disaster related risks and impacts for greater local community	No. of staff trained to develop and finance plans to address climate change Impacts in urban areas (gender disaggregated)	Staff in national and local government and institutions have received training on climate change adaptation at the national level	By the end of the project, at least 100 national and local staff (50 in each country, at least 30% women) will have received training on developing and financing plans to address climate change impacts in urban areas and focusing on key target populations	Records of meetings and trainings including participant surveys	(R) Staff move on to new posts, once trained (A) Staff will remain in place to be able to implement the training	Annually	UN-Habitat

resilience especially to sea-level fluctuation, droughts, heat waves, and floods.			By the end of the project, at least 100 national and local staff (50 in each country, at least 30% women) will have received training on naturebased solutions and/or integrated water management to address climate change impacts in urban areas and focusing on key target populations				
Output 2.2: Knowledge is developed and captured from the project implementation and disseminated to local and national stakeholders, focusing on public awareness and education about climate risks, especially water scarcity and use	No of communication products about climate risks and solutions based on project implementation and estimated number of people reached	Awareness of the impacts of climate change, especially on water security, is limited in the general population Knowledge about how to address impacts from sea level fluctuation is limited	At least one communication product in local language in each country targeted towards the general public on water security risk due to climate change to provide education on water use in urban and rural areas with dissemination focused on women, migrants and other target groups At least one study (in each country) on nature-based solutions, salinization, and/or spatial planning to address sea level fluctuation in urban areas along the Caspian Sea coast	Communication documents, reports, dissemination estimates for number of people reached, especially from target groups	(R) General public are not interested to learn more about behaviour change reduce water consumption (A) Interest by general public to learn more about climate change risks to water security and apply behavioural changes	Annually	UN-Habitat
Project Component 3: Implementation of transformative and catalytic projects at national, city and community level addressing urban resilience and climate change adaptation							
Outcome 3: Increased adaptive capacity of the built environment and ecosystems resilience through the implementation	No of innovative adaptation practices benefiting women and men, ecosystems and	There have been minimal adaptation measures	Seven innovative adaptation practices (one for each target community) implemented that	Field site inspections photo documentation and local level monitoring reports	(R) Delay in implementing infrastructure (A) Agreement of	Baseline, mid-term and end	IOM in the Republic of Azerbaijan and UN-Habitat in the Islamic

of climate adaptation projects. Local government and municipal staff as well as communities have acquired the capacity to manage and maintain priority interventions for upscaling.	infrastructure assets in target communities	implemented in the target communities	increase resilience of women and men, ecosystems and infrastructure assets		Cooperation will stipulate timeframe for implementing infrastructure		Republic of Iran
Output 3.1: Reduced heat risk through a demonstration greening corridor and development of investment planning for further projects in Baku (Republic of Azerbaijan)	No of hectares of land rehabilitated with native and climate appropriate plant species in line with the urban development plan of Baku	The Master plan for the city of Baku identified a green corridor for development but no work has started on this	25 of hectares of former rail-line rehabilitated as green space for use by residents with native and climate appropriate plant species	Field site inspections photo documentation and local level monitoring reports	(R) Delays in final approval of master plan (A) Support of the national and city government for implementation of demonstration site	Annually	IOM in the Republic of Azerbaijan and UN-Habitat in the Islamic Republic of Iran
Output 3.2: Enhanced Early Warning System for sea level fluctuation, drought, flooding and salinization based on advanced hydrometeorological data and urban development plans in Neftchala (Republic of Azerbaijan)	No. of people who receive information on drought and salinization and early warning on flooding	Information on drought and salinization is currently not accessible to people in a timely matter	Over 20,000 women and men receive information about drought, salinization and flooding in a timely manner from an EWS	Field site inspections photo documentation and local level monitoring reports	(R) Difficulties in coordinating data dissemination between national and local level (A) Capacity at local level to convert hydrometeorological data into early warning communications	Annually	IOM in the Republic of Azerbaijan and UN-Habitat in the Islamic Republic of Iran
Output 3.3: Improved water security and management to reduce drought risk through demonstrated rainwater harvesting technology and advancing costed integrated water management plans in Astara (Republic of Azerbaijan)	No of rainwater harvesting demonstration sites established	The city of Astara does not have rainwater harvesting technology	Three rainwater harvesting systems established to demonstrate renewable and sustainable water resource options	Field site inspections photo documentation and local level monitoring reports	(R) Delays in obtaining materials for rainwater harvesting systems (A) Sustained interest by local authorities in the project	Annually	IOM in the Republic of Azerbaijan and UN-Habitat in the Islamic Republic of Iran
Output 3.4: Improved water security and management to reduce drought risk for low-income residents through demonstrated	No of households with access to water provided through rainwater	Low-income households currently do not have access to	624 households with access to water provided through rainwater harvesting technology	Field site inspections photo documentation and local level monitoring reports	(R) Delays in obtaining materials for rainwater harvesting systems	Annually	IOM in the Republic of Azerbaijan and UN-Habitat in the Islamic

rainwater harvesting technology on social housing project and advancing costed integrated water management plans in Astara (Islamic Republic of Iran)	harvesting technology	rainwater harvesting technology			Delays in the construction process of social housing project (A) Sustained interest by local authorities in the project		Republic of Iran
Output 3.5: Reduced heat risk for residents based on a green belt which also protects Bandar-e-Kiashar (Islamic Republic of Iran) from dust	No of hectares of land planted with native and climate appropriate plant species	The Islamic Republic of Iran Meteorological Organization has identified areas for greening but this has not been undertaken in Bandar-e-Kiashar	25 hectares of land planted with native and climate appropriate plant species	Field site inspections photo documentation and local level monitoring reports	(R) Delays in planting as a result of waiting for optimal planting season (A) Support of the national and city government for implementation of demonstration site	Annually	IOM in the Republic of Azerbaijan and UN-Habitat in the Islamic Republic of Iran
Output 3.6: Reduced flooding and drought risk and improved water management as a result of a stormwater drainage system demonstration site inside the city and advancing costed integrated water management plans in Mahmoudabad (Islamic Republic of Iran)	Length of streets with proper stormwater drainage system	The city of Mahmoudabad does not currently have proper stormwater drainage system	3 Kilometres have proper stormwater drainage system	Field site inspections photo documentation and local level monitoring reports	(R) Delays in obtaining materials for stormwater drainage system (A) Sustained interest by local authorities in the project	Annually	IOM in the Republic of Azerbaijan and UN-Habitat in the Islamic Republic of Iran
Output 3.7: Developed Early Warning System for flooding and salinization based on advanced hydrometeorological data and urban development plans in Bandar-eTorkaman (Islamic Republic of Iran)	No. of early warning systems (by scale) and no. of beneficiaries covered	Information on flooding and salinization is currently not accessible to people in a timely matter	Over 50,000 women and men receive information about drought, salinization and flooding in a timely manner from an EWS	Field site inspections photo documentation and local level monitoring reports	(R) Difficulties in coordinating data dissemination between national and local level (A) Capacity at local level to convert hydrometeorological data into early warning communications	Annually	IOM in the Republic of Azerbaijan and UN-Habitat in the Islamic Republic of Iran

Project Component 4: Urban resilience, climate change adaptation – partnerships, institutional, legal, research cooperation and knowledge							
Outcome 4: Coordination and knowledge sharing of data, information and capacity through the Tehran Conventions for scaling up direct, local climate action in the Caspian Sea Region	Knowledge of decision makers improved through workshops reports and trainings at the regional level through capacity building and new mechanism for collection, disseminating and exchange of information	Trainings and regional meetings on local climate action have not been held	Regional meetings are held annually, trainings are held upon the agreed plan	R. Personnel or institutional changes result in poor participation at meetings. A. Continued political support and cooperation	Regional meetings	Baseline, midterm, and end	UNEP -TCIS
Output 4.1: Knowledge and data collected on local climate adaptation action and disseminated to the regional community through an online platform, scientific conferences and scientific collaboration and public awareness raising efforts	No. of scientific conferences No. of public awareness activities No. of trainings/workshops No. of knowledge products produced and estimated number of people reached	Capacity to deliver on local climate action is limited	Hold 2 regional scientific conferences Organize at least one annual regional public awareness activity on Caspian Sea Day Hold at least 2 annual events with participation of regional stakeholders on new web-platform for collection, disseminating and exchange of information and knowledge and information services (Clearing House) Hold at least 3 capacity building workshops for the National Environmental Information Officers	R. Personnel changes mean training/resultant capacity is not retained. Database of CEIC might not be populated with information if some countries may not share the latest data due to the political situation in the region and possible sanctions. It is possible to use the open sources to obtain data. Women, once trained, will have sufficient decisionmaking authority	Scientific conference, public awareness events, awareness materials produced, trainings	Baseline, midterm, and end	UNEP -TCIS
Output 4.2: Scaling up of direct local level climate adaptation action in the Caspian Sea region through the development of a trust fund to finalize small-scale and micro-grant projects	Regional trust fund concept developed	No regional trust fund for small scale climate adaptation action	New Trust Fund is conceptualized	R. Changing priorities in the planning system result in adaptation getting lower priority A. Continued willingness exists to plan for and implement climate change adaptation	Regional meetings, presentation at the Caspian Economic Forum	Baseline, midterm, and end	UNEP -TCIS

F. Project Alignment with the Adaptation Fund Results Framework

Project Outcome(s)[4]	Project Outcome Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
Outcome 1: Regional level decision makers in the Caspian Sea region are enabled to define enhanced strategies at the regional and national level aligned with the normative frameworks, urban development and national climate adaptation priorities.	The guidelines for existing policies have been revised and database for information exchange has been developed for decision makers	Outcome 7: Improved policies and regulations that promote and enforce resilience measures	7. Climate change priorities are integrated into national development strategy	1,000,000 USD
Outcome 2: National decision makers have improved capacity and information to plan for, respond and finance climate change adaptation measures to address sea-level fluctuation, droughts, heat waves, and floods, taking into account urban development, in the Republic of Azerbaijan and the Islamic Republic of Iran.	Capacity of national decision makers to respond to and finance climate change adaptation measures in urban areas increased	Outcome 2: Strengthened institutional capacity to reduce risks associated with climateinduced socioeconomic and environmental losses	2.1. Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased	1,837,420 USD
Outcome 3: Increased adaptive capacity of the built environment and ecosystems resilience through the implementation of climate adaptation projects. Local government and municipal staff as well as communities have acquired the capacity to manage and maintain priority interventions for upscaling.	No of innovative adaptation practices benefiting women and men, ecosystems and infrastructure assets in target communities	Outcome 8: Support the development and diffusion of innovative adaptation practices, tools and technologies	8. Innovative adaptation practices are rolled out, scaled up, encouraged and/or accelerated at regional, national and/or subnational level.	8,040,000 USD
Outcome 4: Coordination and knowledge sharing of data, information and capacity through the Tehran Conventions for scaling up direct, local climate action in the Caspian Sea Region	Knowledge of decision makers improved through workshops reports and trainings at the regional level through capacity building and new mechanism for collection, disseminating and exchange of information	Outcome 4: Increased adaptive capacity within relevant development and natural resource sectors	4.1. Responsiveness of development sector services to evolving needs from changing and variable climate	800,000 USD

[4] The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the overall principle should still apply

Project Outputs for Component 1	Project Output Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)
Output 1.1: Data and knowledge on climate change risks and vulnerability for the Caspian Sea collected and shared at the regional level among the five Caspian Sea littoral states	No of digital tools and models developed on climate change risks and vulnerability for the Caspian Sea	Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	3.2.2 No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders	542,000 USD
Output 1.2: Technical capacity of the Tehran Convention Interim Secretariat to address landbased pollution and urbanization in the context of climate adaptation strengthened	No of trainings and workshops for TC Secretariat staff to address land-based pollution and urbanisation	Output 2.1: Strengthened capacity of national and sub-national centers 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 (by gender)	73,000 USD
Output 1.3: Guidelines and recommendations developed for climate change adaptation coordination, planning and management and strategies between the five Caspian Sea littoral countries	No of guidelines and recommendations that were developed	Output 7: Improved integration of climate-resilience strategies into country development plans	7.1. No. of policies introduced or adjusted to address climate change risks (by sector)	385,000 USD
Project Outputs for Component 2	**Project Output Indicator(s)**	**Fund Output**	**Fund Output Indicator**	**Grant Amount (USD)**
Output 2.1: Strengthened national-and local level capacities in the Republic of Azerbaijan and the Islamic Republic of Iran to develop and finance plans and measures to address climate change and disaster related risks and impacts for greater local community resilience especially to sea-level fluctuation, droughts, heat waves, and floods.	No. of staff trained to develop and finance plans to address climate change impacts (gender disaggregated)	Outcome 2: Strengthened institutional capacity to reduce risks associated with climateinduced socioeconomic and environmental losses	2.1. Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased	588,768 USD
Output 2.2: Knowledge is developed and captured from the project implementation and disseminated to local and national stakeholders, focusing on public awareness and education about climate risks, especially water scarcity and use.	No of communication products about climate risks and solutions based on project implementation and estimated number of people reached	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	1,248,652 USD

Project Outputs for Component 3	Project Output Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)
Output 3.1: Reduced heat risk through a demonstration greening corridor and development of investment planning for further projects in Baku (Republic of Azerbaijan)	No of hectares of land rehabilitated with native and climate appropriate plant species	Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	2,055,000 USD
Output 3.2: Enhanced Early Warning System for sea level fluctuation, drought, flooding and salinization based on advanced ydrometeorological data and urban development plans in Neftchala (Republic of Azerbaijan)	No. of people who have improved access to hydrometeorological data on drought and salinization and early warning on flooding	Output 1.1: Risk and vulnerability assessments conducted and updated	1.2 No. of early warning systems (by scale) and no. of beneficiaries covered	935,000 USD
Output 3.3: Improved water security and management to reduce drought risk through demonstrated rainwater harvesting technology and advancing costed integrated water management plans in Astara (Republic of Azerbaijan)	No of rainwater harvesting demonstration sites established	Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	1,030,000 USD
Output 3.4: Improved water security and management to reduce drought risk through demonstrated rainwater harvesting technology and advancing costed integrated water management plans in Astara (Islamic Republic of Iran)	No of households with access to water provided through rainwater harvesting technology	Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	1,005,000 USD
Output 3.5: Reduced heat risk for residents based on a green belt which also protects Bandar-e-Kiashar (Islamic Republic of Iran)	No of hectares of land planted with native and climate appropriate plant species	Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	1,005,000 USD
Output 3.6: Reduced flooding and drought risk and improved water management as a result of a stormwater drainage system demonstration site inside the city and advancing costed integrated water management plans in Mahmoudabad (Islamic Republic of Iran)	Length of streets with proper stormwater drainage system	Output 4: Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by sector and scale)	1,005,000 USD

Output 3.7: Establish Early Warning System for sea level fluctuation, drought, flooding and salinization based on advanced hydrometeorological data and urban development plans in Bandar-e-Torkaman (Islamic Republic of Iran)	No. of early warning systems (by scale) and no. of beneficiaries covered	Output 1.1: Risk and vulnerability assessments conducted and updated	1.2 No. of early warning systems (by scale) and no. of beneficiaries covered	1,005,000 USD
Project Outputs for Component 4	**Project Output Indicator(s)**	**Fund Output**	**Fund Output Indicator**	**Grant Amount (USD)**
Output 4.1: Knowledge and data collected on local climate adaptation action and disseminated to the regional community through an online platform, scientific conferences and scientific collaboration and public awareness raising efforts	No. of scientific conferences No. of public awareness activities No. of trainings/workshops No. of knowledge products produced and estimated number of people reached	Output 8: Viable innovations are rolled out, scaled up, encouraged and/or accelerated	8.1. No. of innovative adaptation practices, tools and technologies accelerated, scaled-up and/or replicated	598,000 USD
Output 4.2: Scaling up of direct local level climate adaptation action in the Caspian Sea region through the development of a trust fund to finalize smallscale and micro-grant projects	Regional trust fund concept developed	Output 4: Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	4.1.1. No. and type of development sector services modified to respond to new conditions resulting from climate variability and change (by sector and scale)	202,000 USD

G. Budget

Table 14. Budget Notes Component 1

Expected Concrete Outputs	Activities	Notes/ Staff	TOTAL	Year 1	Year 2	Year 3	Year 4	#	Unit
				2023	2024	2025	2026		
Output 1.1 (Caspian Sea regional level)	Activity 1.1.1 - Activity 1.1.17	Regional Component Manager (Geneva/ Baku, P3)	80.000 USD	20.000 USD	20.000 USD	20.000 USD	20.000 USD	48	Months
		Consultant (national) - Collection and systematization of information and data (scientific research, organizations and specialists), including information on previously carried out international projects in the Caspian Sea region related to climate change.	10.000 USD	10.000 USD	0 USD	0 USD	0 USD	Lumpsum	
		Consultant (national) - Conduct comparative study on measures in which rules and regulations governing settlements in Caspian countries coastal zones take climate change mitigation and adaptation needs into account	20.000 USD	10.000 USD	10.000 USD	0 USD	0 USD	Lumpsum	
		Consultant (national) - Development and coordination with CASPCOM (or - National Hydrometeorological Services) patterns for collecting series of regime data (precipitation, chlorophyll distribution, characteristics and repeatability of hazardous weather phenomena - tides, storms, droughts) their volume (number of stations/posts), length (observation period)	20.000 USD	10.000 USD	10.000 USD	0 USD	0 USD	100	Days
		Consultant (national) - Analysis of the existing climatic data for the Caspian Sea region	10.000 USD	0 USD	5.000 USD	5.000 USD	0 USD	200	Days
		Consultant (national) - Analysis of the existing climatic data for the Caspian Sea region	10.000 USD	0 USD	5.000 USD	5.000 USD	0 USD	200	Days
		Consultant (national) - Development of technology of climate data transfer and exchange climate data within the framework of MoU signed between CASPCOM and TC	10.000 USD	0 USD	5.000 USD	5.000 USD	0 USD	100	Days
		Consultant (national) - Collection and analysis of data and information on sea level fluctuations, increased temperature and floods, and droughts	10.000USD	5.000 USD	5.000 USD	0 USD	0 USD	100	Days
		Consultant (national) - Assessments of the implications of the sea level fluctuations on coastal settlements developments, including agriculture, forestry, and biodiversity	10.000 USD	5.000 USD	5.000 USD	0 USD	0 USD	100	Days

		Consultancy firm (national) - Production of digital tools and maps	210.000 USD	35.000 USD	105.000 USD	70.000 USD	0 USD	100	Days

		Consultancy firm (national) - Scenarios and short- and long-term perspectives on major elements of climate change	40.000 USD	20.000 USD	20.000 USD	0 USD	0 USD	100	Days
		Consultancy firm (national) - Inventories of land-based sources of pollition	30.000 USD	15.000 USD	15.000 USD	0 USD	0 USD	Lumpsum	
		Consultancy firm (national) - Pollutants list based on Annex 1, list B	30.000 USD	15.000 USD	15.000 USD	0 USD	0 USD	Lumpsum	
		Workshops and Seminars	35.000 USD	15.000 USD	5.000 USD	15.000 USD	0 USD	Lumpsum	
		International Travel	10.000 USD	2.500 USD	2.500 USD	2.500 USD	2.500 USD	Lumpsum	
		Domestic travel	7.000 USD	1.500 USD	1.500 USD	2.000 USD	2.000 USD	Lumpsum	
		Sub-Total Output 1.1	**542.000 USD**	**164.000 USD**	**229.000 USD**	**124.500 USD**	**24.500 USD**		
Output 1.2 (Caspian Sea regional level)	Activity 1.2.1	Regional Component Manager (Geneva/ Baku, P3)	20.000 USD	5.000 USD	5.000 USD	5.000 USD	5.000 USD	48	Months
		Consultant (international) - trainer for enhancing the capacity of the TCS Secretariat to address land-based pollution and urbanization	28.000 USD	10.000 USD	8.000 USD	5.000 USD	5.000 USD	28	Days
		Workshops and Seminars	20.000 USD	5.000 USD	5.000 USD	5.000 USD	5.000 USD	28	Days
		International Travel (missions)	5.000 USD	1.000 USD	1.000 USD	1.000 USD	2.000 USD	Lumpsum	
		Sub-Total Output 1.2	**73.000 USD**	**21.000 USD**	**19.000 USD**	**16.000 USD**	**17.000 USD**		
Output 1.3 (Caspian Sea Regional level)	Activity 1.3.1 - Activity 1.3.8	Regional Component Manager (Geneva/ Baku, P3, 100%)	60.000 USD	15.000 USD	15.000 USD	15.000 USD	15.000 USD	48	Months
		Consultant (national) - Assessment of the vulnerability of coastal areas of the Caspian Sea, related to the fluctuations of the sea level	20.000 USD	5.000 USD	5.000 USD	10.000 USD	0 USD	200	Days
		Consultant (international) - Preparation of a regional review on legislative and institutional mechanisms in the field of on Coastal Zone Management in the Caspian states	40.000 USD	15.000 USD	15.000 USD	10.000 USD	0 USD	40	Days

		Consultant (international) - Recommendations on the sustainable use of natural resources of the Caspian Sea region for the sustainable development of the coastal areas, based on Regional Guidelines for the Caspian Sea Region on Coastal Zone Management	50.000 USD	15.000 USD	15.000 USD	20.000 USD	0 USD	50	Days
		Consultant (international) - Regional Guidelines for the Caspian Sea Region on Coastal Zone Management, including measures to mitigate the effects of sea level fluctuations on the population and infrastructure of coastal areas	80.000 USD	40.000 USD	40.000 USD	0 USD	0,00 USD	50	days
		Consultant (national) - Analysis of measures to increase the sustainability and adaptation of urban and rural settlements to climate change in national plans and programs of the Caspian states, and the preparation of the relevant regional review	10.000 USD	0 USD	2.500 USD	2.500 USD	5.000 USD	100	Days
		Consultant (international) - Regional recommendations for the inclusion of activities for implementation at the national level to increase the sustainability and adaptation of urban and rural settlements to climate change in national strategies, plans, programs of the Caspian states.	30.000 USD	15.000 USD	15.000 USD	0 USD	0 USD	50	Days
		Meetings/workshops - Operationalization of ICZM working groups for the thematic areas	60.000 USD	15.000 USD	25.000 USD	10.000 USD	10.000 USD	Lumpsum	
		Regional workshops with key regional, national and municipal stakeholders	30.000 USD	10.000 USD	10.000 USD	10.000 USD	0 USD	Lumpsum	
		International Travel (missions)	5.000 USD	1.000 USD	1.000 USD	1.000 USD	2.000 USD	Lumpsum	
Sub-Total Output 1.3			**385.000 USD**	**131.000 USD**	**143.500 USD**	**78.500 USD**	**32.000 USD**		
TOTAL Component 1			**1.000.000 USD**	**316.000 USD**	**391.500 USD**	**219.000 USD**	**73.500 USD**		

Table 15: Budget Notes Component 2

Expected Concrete Outputs	Activities	Notes/ Staff	TOTAL	Year 1	Year 2	Year 3	Year 4	#	Unit
Output 2.1 (national level)	Activity 2.1.1 - Activity 2.1.4	Consultant (internationa/ nationall) - Training package on developing and financing plans to address climate change impacts in urban areas and focusing on key target populations	65.000 USD	20.000 USD	15.000 USD	20.000 USD	10.000 USD	6,5	Months

		Training on developing and financing plans to address climate change impacts in urban areas and focusing on key target populations	53.768 USD	15.000 USD	35.000 USD	3.768 USD	0 USD	Lumpsum	
		Consultant (international/ national) - Training package on naturebased solutions and/or integrated water management to address climate change impacts in urban areas and focusing on key target populations	90.000 USD	35.000 USD	15.000 USD	25.000 USD	15.000 USD	9	Months
		Training on nature-based solutions and/or integrated water management to address climate change impacts in urban areas and focusing on key target populations	70.000 USD	10.000 USD	35.000 USD	25.000 USD	0 USD	lumpsum	
		Peer-to-peer city learning and exchange workshops between locations within the Republic of Azerbaijan and the Islamic Republic of Iran	110.000 USD	35.000 USD	25.000 USD	25.000 USD	25.000 USD	Lumpsum	
		Workshops, seminars and field visits on innovative and successful technologies and approaches used to address floods, erosion, planned city extensions and urban densification as well as on innovative and successful technologies and approaches used to address floods, erosion, biodiversity and ecosystem protection, drainage networks, basic urban service and public space provision.	250.000 USD	50.000 USD	75.000 USD	75.000 USD	50.000 USD	Lumpsum	
		Sub-Total Output 2.1	**638.768 USD**	**165.000 USD**	**200.000 USD**	**173.768 USD**	**100.000 USD**		
Output 2.2 (national level)	Activity 2.2.1 - Activity 2.2.5 (Republic of Azerbaijan)	Development of communication products in local language to increase awareness with general public on water security risks due to climate change	65.000 USD	25.000 USD	15.000 USD	15.000 USD	10.000 USD	Lumpsum	
		Multi-media dissemination in local language of key messages to key ministries and target groups, including women, migrants and other target groups	65.000 USD	25.000 USD	15.000 USD	15.000 USD	10.000 USD	Lumpsum	
		Consultant (international/ national) - Conduct a study on naturebased solutions, salinization, and/or spatial planning to address sea level fluctuation in urban areas along the Caspian Sea coast - Azerbaijan component	85.000 USD	30.000 USD	30.000 USD	17.500 USD	7.500 USD	8,5	Months
		Consultant (international/ national) - Conduct a study on building climate resilient livelihoods building on how access to Early Warning Systems can build resilience in sectors such as agriculture, tourism and aquaculture as well as access to services, especially for families left behind by migrants in Astara and Neftchala	85.000 USD	35.000 USD	20.000 USD	20.000 USD	10.000 USD	8,5	Months
		Apply spatial planning tools such as the Urban Vulnerability Mapping tool to understand areas of critical stress for urban development, biodiversity and climate risk; including integrated coastal-zone management planning	332.500 USD	75.000 USD	100.000 USD	100.000 USD	57.500 USD	Lumpsum	

		Travel (international/ domestic)	20.000 USD	5.000 USD	5.000 USD	5.000 USD	5.000 USD	Lumpsum	
		Sub-Total Output 2.2 (Republic of Azerbaijan)	**652.500 USD**	**195.000 USD**	**185.000 USD**	**172.500 USD**	**100.000 USD**		
	Activity 2.2.6 - Activity 2.2.10 (Islamic Republic of Iran)	Development of communication products in local language to increase awareness with general public on water security risks due to climate change	65.000 USD	25.000 USD	15.000 USD	15.000 USD	10.000 USD	Lumpsum	
		Multi-media dissemination in local language of key messages to key ministries and target groups, including women, migrants and other target groups	65.000 USD	25.000 USD	15.000 USD	15.000 USD	10.000 USD	lumpsum	
		Conduct a study on nature-based solutions, salinization, and/or spatial planning to address sea level fluctuation in urban areas along the Caspian Sea coast - Iran component	85.000 USD	30.000 USD	30.000 USD	17.500 USD	7.500 USD	8,5	Months
		Conduct a study on building climate resilient livelihoods building on how access to Early Warning Systems can build resilience in sectors such as agriculture, tourism and aquaculture as well as access to services, especially for migrants	85.000 USD	35.000 USD	20.000 USD	20.000 USD	10.000 USD	8,5	Months
		Apply spatial planning tools such as the Urban Vulnerability Mapping tool to understand areas of critical stress for urban development, biodiversity and climate risk; including integrated coastal-zone management planning	332.500 USD	75.000 USD	100.000 USD	100.000 USD	57.500 USD	Lumpsum	
		Travel (international/ domestic)	20.000 USD	5.000 USD	5.000 USD	5.000 USD	5.000 USD	Lumpsum	
		Sub-Total Output 2.2 (Islamic Republic of Iran)	**652.500 USD**	**195.000 USD**	**185.000 USD**	**172.500 USD**	**100.000 USD**		
		Sub-Total Output 2.2	**1.305.000 USD**	**390.000 USD**	**370.000 USD**	**345.000 USD**	**200.000 USD**		
		TOTAL Component 2	**1.943.768 USD**	**555.000 USD**	**570.000 USD**	**518.768 USD**	**300.000 USD**		

Table 16: Budget Notes Component 3

Expected Concrete Outputs	Activities	Notes/ Staff	TOTAL	Year 1	Year 2	Year 3	Year 4	#	Unit
Output 3.1 (Republic of Azerbaijan)	Activity 3.1.1 - Activity 3.1.5	Rehabilitation, construction and planting of initial green and public space site in the Hybrid Corridor	1.120.000 USD	280.000 USD	280.000 USD	280.000 USD	280.000 USD	Lumpsum	
		Rainwater recycling system for plants and greenspace	270.000 USD	75.000 USD	85.000 USD	85.000 USD	25.000 USD	Lumpsum	

		Feasibility study with concrete design plans, remediation needs, and native and drought resistant plant options (including climate adaptation expertise on urban adaptation measures and blended finance)	60.000 USD	30.000 USD	30.000 USD	0 USD	0 USD	8	Months
		Capacity development on urban climate adaptation and finance	50.000 USD	10.000 USD	15.000 USD	15.000 USD	10.000 USD	48	Months
		Environmental Impact Assessment Report (ESIA) and gender expertise and monitoring	30.000 USD	10.000 USD	10.000 USD	5.000 USD	5.000 USD	6	Months
		Community consultations	35.000 USD	15.000 USD	10.00 USD	5.000 USD	5.0000 USD	Lumpsum	
		Draft investment plan to develop the remainder of the hybrid, green corridor	65.000 USD	0 USD	25.000 USD	25.000 USD	15.000 USD	10	Months
		Recommendations for the design of gender sensitive green and public space based on a study	40.000 USD	0 USD	30.000 USD	10.000 USD	0 USD	6	Months
		Private sector engagement on adaptation finance and commercial development along the green corridor	50.000 USD	12.500 USD	12.500 USD	12.500 USD	12.500 USD	48	Months
		Executing entity - personnell and office costs	1.120.000 USD	280.000 USD	280.000 USD	280.000 USD	280.000 USD	Lumpsum	
		Sub-Total Output 3.1	**2.055.000 USD**	**516.250 USD**	**581.250 USD**	**521.250 USD**	**436.250 USD**		
Output 3.2 (Netchala, Republic of Azerbaijan)	Activity 3.2.1 - Activity 3.2.5	Early Warning System equipment (i.e. 2 water level sensors, 2 wind sensors, information dashboard, etc.)	250.000 USD	50.000 USD	100.000 USD	50.000 USD	50.00 USD	Lumpsum	
		Early Warning System - communication	150.000 USD	50.000 USD	50.000 USD	35.000 USD	15.0000 USD	Lumpsum	
		Capacity development on Early Warning System	40.000 USD	16.000 USD	8.000 USD	8.000 USD	8.000 USD	48	Months
		Environmental Impact Assessment Report (ESIA) and gender expertise and monitoring	22.000 USD	6.000 USD	6.000 USD	5.000 USD	5.000 USD	3	Months
		Community consultations	18.000 USD	5.000 USD	5.000 USD	4.000 USD	4.000 USD	Lumpsum	
		Scoping study on the role of nature-based solutions in managing salinization	50.000 USD	25.000 USD	25.0000 UD	0 USD	0 USD	7,5	Months
		Awareness raising campaign	20.000 USD	5.000 USD	5.000 USD	5.000 USD	5.000 USD	Lumpsum	
		Climate adaptation expertise on urban adaptation measures and Early Warning System	50.000 USD	15.000 USD	15.000 USD	10.000 USD	10.000 USD	6	Months

		Executing entity - personnell and office costs	335.000 USD	83.750 USD	83.750 USD	83.750 USD	83.750 USD	Lumpsum	
		Sub-Total Output 3.2	**935.000 USD**	**255.750 USD**	**297.750 USD**	**200.750 USD**	**180.750 USD**		
Output 3.3 (Astara, Republic of Azerbaijan)	Activity 3.3.1 - Activity 3.3.4	Rainwater Harvesting System and equipment for four locations (including catchments, coarse mesh, gutters, conduits, filters, storage, etc.)	450.000 USD	125.000 USD	125.000 USD	100.000 USD	100.000 USD	Lumpsum	
		Feasibility study on rainwater harvesting covering each of the four sites	40.000 USD	10.000 USD	10.000 USD	10.000 USD	10.000 USD	6	Months
		Public education on water use and conservation	40.000 USD	10.000 USD	10.000 USD	10.000 USD	10.000 USD	Lumpsum	
		Capacity development urban climate adaptation and water	25.000 USD	7.500 USD	7.500 USD	5.000 USD	5.000 USD	Lumpsum	
		Development of costed plan for adaptation solutions and integrated water management including gender-disaggregated water use	80.000 USD	50.000 USD	15.000 USD	15.000 USD	0 USD	15	Months
		Environmental Impact Assessment Report (ESIA) and gender expertise and monitoring	30.000 USD	0 USD	15.000 USD	15.000 USD	0 USD	5	Months
		Climate Adaptation expertise on urban adaptation measures and integrated water management	10.000 USD	5.000 USD	5.000 USD	0 USD	0 USD	5	Months
		Community Consultations	20.000 USD	5.000 USD	5.000 USD	5.000 USD	5.000 USD	Lumpsum	
		Executing entity - personnell and office costs	335.000 USD	83.750 USD	83.750 USD	83.750 USD	83.750 USD	Lumpsum	
		Sub-Total Output 3.3	**1.030.000 USD**	**296.250 USD**	**276.250 USD**	**243.750 USD**	**213.750 USD**		
		Sub-Total Component 3 (Republic of Azerbaijan)	**4.020.000 USD**	**1.068.200 USD**	**1.155.250 USD**	**965.750 USD**	**830.750 USD**		
Output 3.4 (Astara, Islamic Republic of Iran)	Activity 3.4.1 - Activity 3.1.4	Finalization of feasibility including detailed renderings and incorporation into the social housing project package	80.000 USD	40.000 USD	40.000 USD	0 USD	0 USD	8	Months
		Rainwater Harvesting System and equipment (including catchments, coarse mesh, gutters, conduits, filters, storage, etc.)	375.000 USD	25.000 USD	275.000 USD	50.000 USD	25.000 USD	Lumpsum	
		Rainwater Harvesting System - installation and maintenance	100.000 USD	0 USD	50.000 USD	50.000 USD	0 USD	Lumpsum	
		Capacity development urban climate adaptation and water	45.000 USD	12.500 USD	12.500 USD	10.000 USD	10.000 USD	Lumpsum	
		Public education on water use and conservation	50.000 USD	12.500 USD	12.500 USD	12.500 USD	12.500 USD	Lumpsum	

		Development of costed plan for adaptation solutions and integrated water management including gender-disaggregated water use	150.000 USD	50.000 USD	75.000 USD	25.000 USD	0 USD	15	Months
		Environmental Impact Assessment Report (ESIA) and gender expertise and monitoring	70.000 USD	0 USD	35.000 USD	35.000 USD	0 USD	7	Months
		Climate Adaptation expertise on urban adaptation measures and integrated water management	50.000 USD	12.500 USD	12.500 USD	12.500 USD	12.500 USD	5	Months
		Learning exchanges with other cities in the Republic of Azerbaijan and the Islamic Republic of Iran	40.000 USD	10.000 USD	10.000 USD	10.000 USD	10.000 USD	Lumpsum	
		Community Consultations	25.000 USD	6.000 USD	6.500 USD	6.500 USD	6.000 USD	Lumpsum	
		Field missions for technical expertise and monitoring	20.000 USD	5.000 USD	5.000 USD	5.000 USD	5.000 USD	Lumpsum	
		Sub-Total Output 3.4	**1.005.000 USD**	**173.500 USD**	**534.000 USD**	**216.500 USD**	**81.000 USD**		
Output 3.5 (Bandar-eKiashahr, Islamic Republic of Iran)	Activity 3.5.1 - Activity 3.5.3	Seedlings, fertilizers and growing catalysts	300.000 USD	50.000 USD	100.000 USD	100.000 USD	50.000 USD	Lumpsum	
		Preparing the land for planting – plowing, sand stabilization, and irrigation	150.000 USD	25.000 USD	50.000 USD	50.000 USD	25.000 USD	Lumpsum	
		Planting and maintenance - including labor and transportation costs	150.000 USD	25.000 USD	50.000 USD	50.000 USD	25.000 USD	Lumpsum	
		Capacity development on urban climate adaptation and bio-diversity	75.000 USD	17.500 USD	25.000 USD	22.500 USD	10.000 USD	48	Months
		Study on nature-based solutions to build resilience of the lagoon and protect fishing stocks	75.000 USD	25.000 USD	50.000 USD	0 USD	0 USD	7,5	Months
		Environmental Impact Assessment Report (ESIA) and gender expertise and monitoring	105.000 USD	45.000 USD	0 USD	30.000 USD	30.000 USD	7	Months
		Climate Adaptation expertise on urban adaptation measures and biodiversity protection	50.000 USD	12.500 USD	12.500 USD	12.500 USD	12.500 USD	5	Months
		Learning exchanges with other cities in the Republic of Azerbaijan and the Islamic Republic of Iran	40.000 USD	10.000 USD	10.000 USD	10.000 USD	10.000 USD	Lumpsum	
		Community Consultations	40.000 USD	10.000 USD	10.000 USD	10.000 USD	10.000 USD	Lumpsum	
		Field missions for technical expertise and monitoring	20.000 USD	5.000 USD	5.000 USD	5.000 USD	5.000,USD	Lumpsum	
		Sub-Total Output 3.5	**1.005.000 USD**	**225.000 USD**	**312.500 USD**	**290.000 USD**	**177.500 USD**		

Output 3.6 (Mahmoudabad, Islamic Republic of Iran)	Activity 3.6.1 - Activity 3.6.4	Feasibility study with concrete design plans, including the exploration of innovative solutions such as nature-based solutions for water filtration	60.000 USD	30.000 USD	30.000 USD	0 USD	0 USD	6	Months
		Stormwater Drainage System equipment (i.e. PVC pipes, drainage grates, manhole covers, septic, filters, storage, etc.)	330.000 USD	50.000 USD	130.000 USD	100.000 USD	50.000 USD	Lumpsum	
		Land preparation, excavation, planting, well construction, etc.	150.000 USD	50.000 USD	75.000 USD	25.000 USD	0 USD	Lumpsum	
		Stormwater Drainage System - installation and maintenance	150.000 USD	25.000 USD	50.000 USD	50.000,00 USD	25.000,00 USD	Lumpsum	
		Scoping study for expansion of Stormwater Drainage System, including innovative solutions such as nature-based solutions for water filtration, and an integrated flood management plan	60.000 USD	20.000 USD	40.000 USD	0 USD	0 USD	6	Months
		Capacity development on Stormwater Drainage System and flood management	55.000 USD	15.000 USD	15.000 USD	12.500 USD	12.500 USD	48	Months
		Environmental Impact Assessment Report (ESIA) and gender expertise and monitoring	70.000 USD	0 USD	35.000 USD	35.000 USD	0 USD	7	Months
		Climate Adaptation expertise on urban adaptation measures, Stormwater Drainage System and flood management	50.000 USD	12.500 USD	12.500 USD	12.500 USD	12.500 USD	5	Months
		Learning exchanges with other cities in the Republic of Azerbaijan and the Islamic Republic of Iran	20.000 USD	5.000 USD	5.000 USD	5.000 USD	5.000 USD	Lumpsum	
		Community Consultations	40.000 USD	10.000 USD	10.000 USD	10.000 USD	10.000 USD	Lumpsum	
		Field missions for technical expertise and monitoring	20.000 USD	5.000 USD	5.000 USD	5.000 USD	5.000 USD	Lumpsum	
		Sub-Total Output 3.6	**1.005.000 USD**	**222.500 USD**	**407.500 USD**	**255.000 USD**	**120.000 USD**		
Output 3.7 (Bandar-eTorkaman, Islamic Republic of Iran)	Activity 3.7.1 - Activity 3.7.3	Feasibility study with concrete design plans, including the exploration of innovative solutions for an Early Warning System	60.000 USD	30.000 USD	30.000 USD	0 USD	0 USD	6	Months
		Early Warning System equipment (i.e. 2 water level sensors, 2 wind sensors, information dashboard, etc.)	350.000 USD	50.000 USD	150.000 USD	100.000 USD	50.000 USD	Lumpsum	
		Early Warning System - communication	150.000 USD	37.500 USD	37.500 USD	37.500 USD	37.500 USD	Lumpsum	
		Capacity development on Early Warning System	180.000 USD	40.000 USD	50.000 USD	50.000 USD	40.000 USD	48	Months
		Awareness raising campaign	65.000 USD	15.000 USD	20.000 USD	20.000 USD	10.000 USD	Lumpsum	

		Environmental Impact Assessment Report (ESIA) and gender expertise and monitoring	70.000 USD	0 USD	35.000 USD	35.000 USD	0 USD	7	Months
		Climate Adaptation expertise on urban adaptation measures and Early Warning System	50.000 USD	12.500 USD	12.500 USD	12.500 USD	12.500 USD	5	Months
		Learning exchanges with other cities in the Republic of Azerbaijan and the Islamic Republic of Iran	20.000 USD	5.000 USD	5.000 USD	5.000 USD	5.000 USD	Lumpsum	
		Community consultations	40.000 USD	10.000 USD	10.000 USD	10.000 USD	10.000 USD	Lumpsum	
		Field missions for technical expertise and monitoring	20.000 USD	5.000 USD	5.000 USD	5.000 USD	5.000 USD	Lumpsum	
Sub-Total Output 3.7			**1.005.000 USD**	**205.000 USD**	**355.000 USD**	**275.000 USD**	**170.000 USD**		
Sub-Total Component 3 (Islamic Republic of Iran)			**4.020.000 USD**	**826.000 USD**	**1.609.000 USD**	**1.036.500 USD**	**548.500 USD**		
TOTAL Component 3			**8.040.000 USD**	**1.761.000 USD**	**2.874.000 USD**	**2.036.500 USD**	**1.368.500 USD**		

Table 17: Budget Notes Component 4

Expected Concrete Outputs	Activities	Notes/ Staff	TOTAL	Year 1	Year 2	Year 3	Year 4	#	Unit
Output 4.1	Activity 4.1.1 - Activity 4.1.3	Regional Component Manager (Geneva/ Baku, P3, 100%)	160.000 USD	40.000 USD	40.000 USD	40.000 USD	40.000 USD	48	Months
		Consultants (national) - Establishment of mechanism for collection, disseminatng and exchange of information and knowledge and information services (Clearing House) among public organizations and other stakeholders on the basis of the CEIC of information of climate change in the Caspian Sea region including information on adaptation to climate change in the coastal areas of the Caspian Sea	30.000 USD	0 USD	15.000 USD	15.000 USD	0 USD	300	days
		Consultant (international) - Present the design of the Web-based Science-Policy Platform under CEIC at a workshop	40.000 USD	0 USD	20.000 USD	20.000 USD	0 USD	40	Days
		Consultant (national) - Prepare a report on lessons learnt from pilot interventions at country and local level for littoral countries of the Caspian Sea.	20.000 USD	0 USD	0 USD	0 USD	20.000 USD	200	Days
		Consultant (national) - Prepare a list of investment needs and opportunities for national and local climate adaptation interventions	20.000 USD	0 USD	0 USD	0 USD	20.000 USD	200	Days

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		Consultant (national) - Development of an action plan for the implementation and optimization of the provisions of the Strategy for civil society engagement in the Caspian sea of the Tehran Convention 2011, including to raise public awareness in the field of climate change in the Caspian Sea Region and the needs for adaptation to these changes	20.000 USD	5.000 USD	5.000 USD	5.000 USD	5.000 USD	200	days
		Consultant (international) - Support for the organization of the "Caspian Sea Day" related to the consideration of the updated Strategy for civil society engagement in the Caspian sea of the Tehran Convention, including raising public awareness in the field of climate change in the Caspian Sea Region and the needs for adaptation to these changes	40.000 USD	0 USD	0 USD	20.000 USD	20.000 USD	40	days
		Consultancy firm (international) - Re-design CEIC online platform	50.000 USD	15.000 USD	15.000 USD	20.000 USD	0 USD	50	days
		Consultancy firm (international) - Development of the design of Climate Change Information and Knowledge Clearing House	30.000 USD	0 USD	15.000 USD	15.000 USD	0 USD	30	days
		Sustainable Investment Conference within the Caspian Economic Forum	40.000 USD	0 USD	0 USD	0 USD	40.000 USD	Lumpsum	
		Two scientific conferences on climate change in the Caspian Sea region	40.000 USD	0 USD	10.000 USD	10.000 USD	20.000 USD	Lumpsum	
		Workshops, Seminars and Meetings	100.000 USD	15.000 USD	30.000 USD	30.000 USD	25.000 USD	Lumpsum	
		International Travel (missions)	5.000 USD	0 USD	1.000 USD	2.000 USD	2.000 USD	Lumpsum	
		Domestic travel	3.000 USD	0 USD	1.000 USD	1.000 USD	1.000 USD	Lumpsum	
		Sub-Total Output 4.1	**598.000 USD**	**75.000 USD**	**152.000 USD**	**178.000 USD**	**193.000 USD**		
Output 4.2	Activity 4.2.1 - Activity 4.2.14	Regional Component Manager (Geneva/ Baku, P3, 100%)	160.000 USD	40.000 USD	40.000 USD	40.000 USD	40.0000 USD	48	months
		Consultant (international) - Development of ToR for Trust Fund	20.000 USD	10.000 USD	10.000 USD	0 USD	0 USD	15	days
		Organization of regional consultations to set operationalized Trust Fund	10.000 USD	0 USD	5.000 USD	5.000 USD	0 USD	Lumpsum	
		Presenting the Trust Fund at Caspian Economic Forum	10.000 USD	0 USD	0 USD	0 USD	10.000 USD	Lumpsum	
		Domestic travel	2.000 USD	0 USD	1.000 USD	1.000 USD	0 USD	Lumpsum	

Sub-Total Output 4.2	**202.000 USD**	**50.000 USD**	**56.000 USD**	**46.000 USD**	**50.000 USD**	
TOTAL Component 4	**800.000 USD**	**125.000 USD**	**208.000 USD**	**224.000 USD**	**243.000 USD**	

Table 18: Budget Notes Execution Fees and MIE Fees

	Project Execution Cost		**TOTAL**	**Year 1**	**Year 2**	**Year 3**	**Year 4**
Project Execution	Programme Implementation	Regional Programme Manager (Baku, P4), also supports execution of component 2 in the Republic of Azerbaijan	400.000,USD	100.000 USD	100.000 USD	100.000 USD	100.000 USD
		Project Assistant (national)	200.000 USD	50.000 USD	50.000 USD	50.000 USD	50.000 USD
		Communication and Advocacy Officer (national)	200.000 USD	50.000 USD	50.000 USD	50.000 USD	50.000 USD
		Monitoring and Evaluation Officer (including safeguarding and gender (AF) compliance) (national)	100.000 USD	25.000 USD	25.000 USD	25.000 USD	25.000 USD
		Monitoring and Evaluation	74.500 USD	9.625 USD	17.625 USD	4.625 USD	42.625 USD
		Sub-Total Execution Fees - Programme Implementation	**974.500 USD**	**234.625 USD**	**242.625 USD**	**229.625 USD**	**267.625 USD**
	Travel	Travel	12.000 USD	3.000 USD	3.000 USD	3.000 USD	3.000 USD
		Sub-Total Execution Fees - Travel	**12.000 USD**	**3.000 USD**	**3.000 USD**	**3.000 USD**	**3.000 USD**
	Operations	Office Rental	48.000 USD	12.000 USD	12.000 USD	12.000 USD	12.000 USD
		Office Security Cost Share	30.000 USD	7.500 USD	7.500 USD	7.500 USD	7.500 USD
		Common Services Cost Share	4.000 USD	1.000 USD	1.000 USD	1.000 USD	1.000 USD
		Communication Cost (ICT licenses, internet, mobile voice, etc)	25.305 USD	6.356 USD	6.350 USD	6.350 USD	6.250 USD
		Vehicle Operations and Maintenance/ Car Rental	68.000 USD	17.000 USD	17.000 USD	17.000 USD	17.000 USD
		Office Operating Cost (utilities, maintenance, stationery, petty cash)	24.000 USD	6.000 USD	6.000 USD	6.000 USD	6.000 USD
		ICT equipment (laptops/ desktops, printer)	40.000 USD	20.000 USD	10.000 USD	5.000 USD	5.000 USD
		Sub-Total Execution Fees - Operations	**239.307 USD**	**69.857 USD**	**59.850 USD**	**54.850 USD**	**54.750 USD**
	TOTAL Execution Fees (9.5%)		**1.225.807 USD**	**307.482 USD**	**305.475 USD**	**287.475 USD**	**325.375 USD**
	Project Cycle Management Fee Cost		**TOTAL**	**Year 1**	**Year 2**	**Year 3**	**Year 4**
Project Cycle Management	1,25%	Programme Management Officer - Administration (P3)	161.290 USD	40.322 USD	40.322 USD	40.323 USD	40.323 USD
	0,25%	UN-Habitat Monitoring and Evanualuation (ESP and GP), including travel	32.258 USD	8.064 USD	8.064 USD	8.065 USD	8.065 USD

	7.00%	UN-Habitat HQ PSC - overall project supervision, including compliance to UN-Habitat and AF policies (gender, human rights, climate change, etc.) Part of this fee will be passed-through to UNEP and IOM utilizing the UN to UN agreement modality.	903.226 USD	225.807 USD	225.807 USD	225.806 USD	225.806 USD
		TOTAL Project Cycle Management Fee Costs (8.5%)	**1.096.774 USD**	**274.193 USD**	**274.193 USD**	**274.194 USD**	**274.194 USD**

Table 19: Project Budget Overview

Project Execution Cost			**TOTAL**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**#**	**Unit**
Project Execution	Programme Implementation	Regional Programme Manager (Baku, P4), also supports execution of component 2 in the Republic of Azerbaijan	400.000 USD	100.000 USD	100.000 USD	100.000 USD	100.000 USD	48	Months
		Project Assistant (national)	200.000 USD	50.000 USD	50.000 USD	50.000 USD	50.000 USD	48	Months
		Communication and Advocacy Officer (national)	200.000 USD	50.000 USD	50.000 USD	50.000 USD	50.000 USD	48	Months
		Monitoring and Evaluation Officer (including safeguarding and gender (AF) compliance) (national)	100.000 USD	25.000 USD	25.000 USD	25.000 USD	25.000 USD	24	Months
		Monitoring and Evaluation	74.500 USD	9.625 USD	17.625 USD	4.625 USD	42.625 USD	Lumpsum	
		Sub-Total Execution Fees - Programme Implementation	**974.500 USD**	**234.625 USD**	**242.625 USD**	**229.620 USD**	**267.625 USD**		
	Travel	Travel	12.000 USD	3.000 USD	3.000 USD	3.000 USD	3.000 USD	Lumpsum	
		Sub-Total Execution Fees - Travel	**12.000 USD**	**3.000 USD**	**3.000 USD**	**3.000 USD**	**3.000 USD**		
	Operations	Office Rental	48.000 USD	12.000 USD	12.000 USD	12.000 USD	12.000 USD	0	Months
		Office Security Cost Share	30.000 USD	7.500 USD	7.500 USD	7.500 USD	7.500 USD	0	Months
		Common Services Cost Share	4.000 USD	1.000 USD	1.000 USD	1.000 USD	1.000 USD	12	Months
		Communication Cost (ICT licenses, internet, mobile voice, etc)	25.306 USD	6.357 USD	6.350 USD	6.350 USD	6.250 USD	48	Months
		Vehicle Operations and Maintenance/ Car Rental	68.000 USD	17.000 USD	17.000 USD	17.000 USD	17.000 USD	48	Months
		Office Operating Cost (utilities, maintenance, stationery, petty cash)	24.000 USD	6.000 USD	6.000 USD	6.000 USD	6.000 USD	48	Months
		ICT equipment (laptops/ desktops, printer)	40.000 USD	20.000 USD	10.000 USD	5.000 USD	5.000 USD	Lumpsum	
		Sub-Total Execution Fees - Operations	**239.306 USD**	**69.856 USD**	**59.850 USD**	**54.850 USD**	**54.750 USD**		
		TOTAL Execution Fees (max. 9.5%)	**1.225.806 USD**	**307.481 USD**	**305.475 USD**	**287.475 USD**	**325.375 USD**		

	Project Cycle Management Fee Cost		TOTAL	Year 1	Year 2	Year 3	Year 4	#	Unit
Project Cycle Management	1,25%	Programme Management Officer - Administration (P3)	161.290 USD	40.322 USD	40.322 USD	40.323 USD	40.323 USD	24	Months
	0,25%	UN-Habitat Monitoring and Evanualuation (ESP and GP), including travel	32.258 USD	8.0635 USD	8.065 USD	8.064 USD	8.064 USD	Lumpsum	
	7,00%	UN-Habitat HQ PSC - overall project supervision, including compliance to UNHabitat and AF policies (gender, human rights, climate change, etc.) Part of this fee will be passed-through to UNEP and IOM utilizing the UN to UN agreement modality.	903.226 USD	225.807 USD	225.807 USD	225.806 USD	225.806 USD	Lumpsum	
TOTAL Project Cycle Management Fee Costs (8.5%)			**1.096.774 USD**	**274.194 USD**	**274.194 USD**	**274.193 USD**	**274.193 USD**		

Table 20: Monitoring and Evaluation Budget

Type of M&E Activity	Activity	Entity	Total	Year 1	Year 2	Year 3	Year 4	Comments
Measurements of Means of Verification (baseline assessment and M&E Plans) as part of Inception	Inception Meeting	UN-Habitat (regional with UNEP; national through project office)	5.000 USD	5.000,00 USD	0 USD	0 USD	0 USD	n/a
	Programme/ National Technical Advisory Committee Meetings	UN-Habitat (regional with UNEP; national through project office)	7.500 USD	1.875 USD	1.875 USD	1.875 USD	1.875 USD	n/a
	National Technical Advisory Committee Meetings	UN-Habitat (regional with UNEP; national through project office)	6.000 USD	0 USD	3.000 USD	0 USD	3.000 USD	n/a
	Report preparation and EE compliance to AF ESP and GP	UN-Habitat (Programme Management)	0 USD	0 USD	0 USD	0 USD	0 USD	See overall project monitoring and evaluation function covered by a M&E Officer function (from Project Cycle Management Fee)

Direct Project Monitoring and Quality Assurance, including annual progress and financial reporting, project revisions, technical assistance and ESP and GP compliance (from Execution Fee M&E and Safeguards)	Direct Project Monitoring and Quality Assurance, including progress and financial reporting, and risk management	UN-Habitat (Programme Management)	8.000 USD	2.000 USD	2.000 USD	2.000 USD	2.000 USD	n/a
	Compliance with ESP and GP	UN-Habitat (Programme Management)	3.000 USD	750 USD	750 USD	750 USD	750 USD	n/a
Overall programme/ project monitoring and evaluation (from Cycle Management Fee)		UN-Habitat (Programme Management)	0 USD	0 USD	0 USD	0 USD	0 USD	See overall project monitoring and evaluation function covered by a M&E Officer function (from Project Cycle Management Fee)
Audits	In line with AF requirements	External	0 USD	0 USD	0 USD	0 USD	0 USD	n/a
Mid-Term Evaluation			10.000 USD	0 USD	10.000 USD	0 USD	0 USD	n/a
Final Evaluation		Independent	35.000 USD	0 USD	0 USD	0 USD	35.000 USD	n/a
		Sub-Total M&E	**74.500 USD**	**9.625 USD**	**17.625 USD**	**4.625 USD**	**42.625 USD**	n/a
From Project Execution Fee			**74.500 USD**	**9.625 USD**	**17.625 USD**	**4.625 USD**	**42.625 USD**	
	From Project Cycle Management Fee		**100.000 USD**	**25.000 USD**	**25.000 USD**	**25.000 USD**	**25.000 USD**	M&E Officer function

Table 23: Calculation of Total Funding Request

Requested Amounty for Funding	TOTAL	Year 1	Year 2	Year 3	Year 4
TOTAL Programme Activties	11.783.768 USD	2.757.000 USD	4.043.500 USD	2.998.268 USD	1.985.000 USD
TOTAL Programme Execution (max. 9.5%)	1.225.806 USD	307.481 USD	305.475 USD	287.475 USD	325.375 USD
TOTAL Programme Cycle Management (8.5%)	1.096.774 USD	274.194 USD	274.194 USD	274.193 USD	274.193 USD
TOTAL requested amount for funding	**14.000.000 USD**	**3.311.683 USD**	**4.596.683 USD**	**3.533.450 USD**	**2.558.183 USD**

Table 24: Calculation of Execution Fee for Components and Total

Component	Execution Entity	A: Programme Activities (Total)	B: Programme Execution (9.5%)	
Component 1	UNEP	1.000.000 USD	9,50%	95.000 USD
Component 2	UN-Habitat	1.943.768 USD	1,50%	29.157 USD
Component 3 - Republic of Azerbaijan	IOM	4.020.000 USD	9,50%	381.900 USD
Component 3 - Islamic Republic of Iran	UN-Habitat	4.020.000 USD	1,50%	60.300 USD
Component 4	UNEP	800.000 USD	9,50%	76.000 USD
Total % from Programme Activities		**11.783.768 USD**	**5,25%**	**642.356,52 USD**

H. Disbursement Schedule

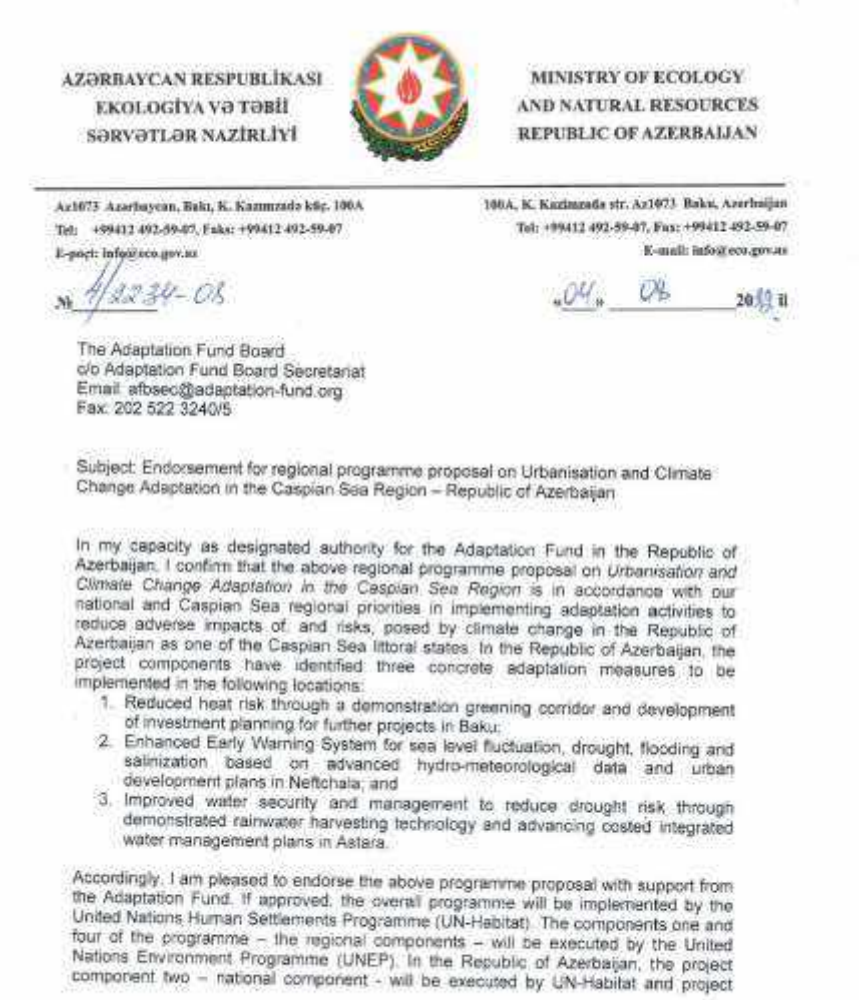
	Year 1	Year 2	Year 3	Year 4
	2023	2024	2025	2026
Schedule	1st Disbursement	2nd Disbursment - one year after project inception	3rd Disbursemenrt - two years after project inception	4th Disbursement - three years after project inception
Milestines	Upon agreement signature between UN-Habitat and Adaptation Fund	Upon financial report indicating disbursement of at least 50% of funds of 1st year and/ or upon First Annual Report	Upon financial report indicating dusbursement of at least 50% of funds of 2nd year and/ or upon Second Annual Report	Upon financial report indicating dusbursement of at least 50% of funds of 3rd year and/ or upon Third Annual Report

_____	Upon Signature Q3.2023	One Year after Project Inception Q3.2024	two Yearsr after Project Inception Q3.2025	Three Years after Project Inception Q3.2026	Total
A. Project Funds (USD)	2.757.000 USD	4.043.500 USD	2.998.268 USD	1.985.000 USD	11.783.768 USD
B. Programme Execution (USD)	280.490 USD	278.990 USD	260.989 USD	298.989 USD	1.119.458 USD
C. Programme Cycle Management (USD)	274.193 USD	274.193 USD	274.194 USD	274.194 USD	1.096.774 USD
TOTAL (USD)	**3.311.683 USD**	**4.596.683 USD**	**3.533.451 USD**	**2.558.183 USD**	**14.000.000 USD**

PART IV: ENDORSEMENT BY GOVERNMENTS AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government

Republic of Azerbaijan - Mr. Emin Garabaghli, Head - Division for International Cooperation, Ministry of Ecology and Natural Resources: 4 August 2022.



AZƏRBAYCAN RESPUBLİKASI
EKOLOGİYA VƏ TƏBİİ
SƏRVƏTLƏR NAZİRLİYİ

MINISTRY OF ECOLOGY
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№ 4/2234-08 «04» 08 2022 il

The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: afbsec@adaptation-fund.org
Fax: 202 522 3240/5

Subject: Endorsement for regional programme proposal on Urbanisation and Climate Change Adaptation in the Caspian Sea Region – Republic of Azerbaijan

In my capacity as designated authority for the Adaptation Fund in the Republic of Azerbaijan, I confirm that the above regional programme proposal on *Urbanisation and Climate Change Adaptation in the Caspian Sea Region* is in accordance with our national and Caspian Sea regional priorities in implementing adaptation activities to reduce adverse impacts of and risks, posed by climate change in the Republic of Azerbaijan as one of the Caspian Sea littoral states. In the Republic of Azerbaijan, the project components have identified three concrete adaptation measures to be implemented in the following locations:

1. Reduced heat risk through a demonstration greening corridor and development of investment planning for further projects in Baku;
2. Enhanced Early Warning System for sea level fluctuation, drought, flooding and salinization based on advanced hydro-meteorological data and urban development plans in Neftchala; and
3. Improved water security and management to reduce drought risk through demonstrated rainwater harvesting technology and advancing costed integrated water management plans in Astara.

Accordingly, I am pleased to endorse the above programme proposal with support from the Adaptation Fund. If approved, the overall programme will be implemented by the United Nations Human Settlements Programme (UN-Habitat). The components one and four of the programme – the regional components – will be executed by the United Nations Environment Programme (UNEP). In the Republic of Azerbaijan, the project component two – national component - will be executed by UN-Habitat and project

component three – local component - will be executed by the International Organisation for Migration (IOM). The oversight of the project in the Republic of Azerbaijan will be conducted by the Ministry for Ecology and Natural Resources, and technically supported and coordinated with the State Committee for Urban Planning and Architecture.

Sincerely,

Emin Garabaghli

Head
Division for International Cooperation

Islamic Republic of Iran – Mr. Mohammad Hasaninejad Pirkouhi Director General for International Environmental and Sustainable Development Affairs, Ministry of Foreign Affairs: 7 January 2023.

Ministry of Foreign Affairs
of the Islamic Republic of Iran

Letter of Endorsement
by the Government of the Islamic Republic of Iran

07 January 2023

To: **The Adaptation Fund Board**
c/o Adaptation Fund Board Secretariat
Email: afbsec@adaptation-fund.org
Fax: 202 522 3240/5

Subject: Endorsement for regional programme proposal on *Urbanisation and Climate Change Adaptation in the Caspian Sea Region* – Islamic Republic of Iran

In my capacity as designated authority for the Adaptation Fund in the Islamic Republic of Iran, I confirm that the above regional programme proposal on *Urbanisation and Climate Change Adaptation in the Caspian Sea Region* is in accordance with the government's national and Caspian Sea regional priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the Islamic Republic of Iran as one of the Caspian Sea littoral States.

I am pleased to endorse the above programme proposal with support from the Adaptation Fund. If approved, the overall programme will be implemented by the United Nations Human Settlements Programme (UN-Habitat). The I.R. Iran project component will be jointly executed, supported and coordinated by UN-Habitat and the Ministry of Roads and Urban Development, and oversighted by the Director General for International Environmental and Sustainable Development Affairs at the Ministry of Foreign Affairs at the national level as well as all relevant stakeholders at the local level.

Based on the letter dated 4 Jan 2023 by HABITAT (attached), the regional component of the project will be executed from the UN-Habitat headquarters based in Nairobi, Republic of Kenya, while the implementation of the national activities will be carried out from the national offices based in the two participating countries. Meanwhile, the national components of the project will each receive equal amount of allocation.

Sincerely,

Mr. Mohammad Hasaninejad Pirkouhi
Director General for International Environmental and Sustainable Development Affairs
Ministry of Foreign Affairs of the Islamic Republic of Iran

Total pages including attachment: 2

B. Implementing Entity certification

I certify that this proposal has been prepared in accordance with guidelines by the Adaptation Fund, and prevailing National Development and Adaptation Plans, especially the Nationally Determined Contributions of Azerbaijan and Iran (Islamic Republic of) and subjected to the approval by the Adaptation Fund Board, commit to implementing the programme 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 programme.

Rafael Tuts
Director, Global Solutions Division | Officer-in-Charge, Office of the Deputy Executive Director | United Nations Human Settlements Programme
Tel +254 20 7623726 | Cell +254 713 601 278 | Email raf.tuts@un.org

Implementing Entity Focal Point

Date: 6 January 2023

Project Contact Person:

Katja Schäfer, Inter-Regional Advisor I United Nations Human Settlements Programme (UN-Habitat) I Global Solutions Division I Programme Development Branch; Tel +254 20 7624738 I Cell +254 757 628 691 I Email katja.schaefer@un.org

ANNEX 1: TARGET AREA SELECTION

A.1: Greater Baku Area

The city of Baku, capital of the Republic of Azerbaijan, is the largest coastal metropolitan area of the Caspian Sea with its extensive built environment. It lies on the western shore of the Caspian Sea, and the southern side of the Abşeron Peninsula, around the wide curving sweep of the Bay of Baku. The bay, sheltered by the islands of the Baku Archipelago, provides the best harbour of the Caspian Sea, while the Abşeron Peninsula gives protection from violent northerly winds. The city is known for its accelerated pace of development and urbanization levels in the post-Soviet period, but also for large-scale environmental and social problems accompanying its growth. The rapid and largely uncoordinated construction has had a detrimental effect not only on its infrastructure, but it has also led to a rapid reduction in green areas, which has made this center of political and economic activity heavily vulnerable to increasing temperatures, due to the urban heat island effect. The enhancement of the green and open space supply within the city is among the priority targets of Baku General Plan. In accordance with the "State Urban Planning Norms and Regulations (AzDTN 2.6-1)", the Baku General Plan will take measures to increase the amount of urban green space to 8 sqm per capita.

A1. Map 2: Identified target areas and communities along the Caspian Sea shore – Republic of Azerbaijan: target area A.1 – Absheron Peninsula/ Greater Baku Region (not to scale)

Image A.1-1: Housing under construction in Baku city center

Image A.1-2: Rail yard in Baku city

Image A.1-3: Former rail lines selected for greening in the Baku Master plan[5]

Image A.1-4: Undeveloped area lacking shade in city center

[5] Source : https://twitter.com/silkwaytravelaz/status/ 462103913521373184

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A.2: Neftchala

The Neftchala district has been identified as a priority development region for the Government of the Republic of Azerbaijan. Located along the coastal area at the mouth of the river Kura, the impact of climate change is very visible. The area is exposed to flooding during heavy rains and higher water tables of the Caspian Sea while facing salination when drought occur as well as declining water levels of the Caspian Sea. The absence of fresh water and salinization of Kura River during the 2020 summer made the site the zone of an emergency. Currently, the government is constructing a large scale infrastructure project in order to pipe the necessary drinking water to the location and address th elimited accessibility to fresh drinking water and for agricultural purposed. The Neftchala district is considered a priority area of the governments development efforts due to its strategic location, proximity to national parks, as well as livelihoods depending on access to both the river Kura and the Caspian Sea. This fragile ecosystem is threatened as well as community vulnerabilitiues exposed.

A1. Map 3: Identified target areas and communities along the Caspian Sea shore – Republic of Azerbaijan: target area A.2 – Neftchala Region (not to scale)

Image A.2-1: Typical multi-story building in Neftchala without access to water during drought (source: Anar Valiyev)

Image A.2-2: Irrigation canal washing salinity form agricultural fields into the Kura river catchment area (source: Anar Valiyev)

Image A.2-3: Informal Solid Waste dumping site next to a river bed in Neftchala region (source: Anar Valiyev)

Image A.2-4: Images of Kura River during summer period drought[6]

[6] Source : https://www.turan.az/ext/news/2020/7/free/Interview/en/125715.htm

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A.3: Astara (Republic of Azerbaijan)

A1. Map 4: Identified target areas and communities along the Caspian Sea shore – Republic of Azerbaijan: target area A.3 – Lenkaran/ Astara Region (not to scale)

The city is located in proximity to the border with the Islamic Republic of Iran separated by the Astarachay River. Although its density is not yet comparable to the central parts of the Caspian Sea coast in Republic of Azerbaijan, the region has seen a pronounced population growth in recent years due to opportunities created by the border economy (22.4% increase in population from 2000 to 2015). The expansion of the urban fabric is currently pressuring the Hyrcanian forest system, and surrounding agricultural landscapes, which are still the main economic sector. With a large proportion of the region's households living in rural areas being engaged in subsistence agriculture, there is an increasing demand for water which is clearly not being met. Hydrological processes have had an enormous impact on available water resources, agricultural productivity, and community vulnerability. Nation-wide average daily water supply of the population has gone from 153.5 liters to 66.9 liters in the last 20 years, and water shortages in the region are expected to be exacerbated by time. As temperature increases, and precipitation decreases, coupled with changes in snow cover extent, there's a need to improve water security and management, to reduce drought risk and diversify water sourcing capacity, especially considering that the existing reservoirs and irrigation systems are mostly used for agriculture and reporting heavy losses during transportation, and that 70% of total river flow comes from compromised cross-border river flow.

Image A.3-1: Informal Solid Waste dumping site in Astara region (source: Anar Valiyev)

Image A.3-2: People in region depend on the trans-border trade for their own consumption or business (source: Anar Valiyev)

Image A.3-3: Azerbaijan-Iranian border. Iran is destination not only for food, but for medical services too[7]

[7] Source : https://iwpr.net/global-voices/azerbaijanis-flock-iran-food-medicines

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I.1: Astara (Islamic Republic of Iran)

Astara is a common border region located between the Islamic Republic of Iran and the Republic of Azerbaijan. Due to the environmental, economic and social ties of this region, it is necessary to pay attention to it in an integrated manner and with common considerations. The region has seen population growth in recent years due to opportunities created by the border economy. However, its density is not yet comparable to the central parts of the Caspian Sea coast in the Islamic Republic of Iran. The structural form of settlements' location is linear due to the land form between the sea and the mountains in this area. One of the prominent features of this area is the unplanned groth of settlements within an emerging metropolitan region, however without any urban centres but rather spreading like a carpet of rural housing typologies along the coast. Moreover, the coastal line is changing rapidly, both through fluctuating sea levels as well as increade urbanization.Satellite images show the progress of sea water on the west coast, especially in Astara and Tavalesh townships.

A1. Map 5: Identified target areas and communities along the Caspian Sea shore – Islamic Republic of Iran: target area I.1 – Astara Region (not to scale)

Image A.4-1: Unplanned urbanization pattern in Astara region

Image I.1-2: Astara Region – coastal zone in 2016 (source: google earth)

Image I.1--2: Astara Region – coastal zone in 1984 (source: google earth)

I.2: Bandar-e-Kiashahr

Bandar-e-Kiashahr, he Anzali Lagoon and Selidroud Delta are among the most vulnerable locations to the impact of climate change along the northern coastal areas in the Islamic Republic of Iran. Many measures have been undertaken to rehabilitate this fragile wetland, and it continues to require attention. The density of settlements in this area is scattered, with Anzali Port being the largest urban agglomeration.Climate change and its aftermath, such as sea level fluctuations, will have a significant impact on both Anzali Lagoon, one of the world's most important wildlife habitats, and the region's habitats and economies, especially for local fishermen. Due to the coastal location of Anzali Port, the reduction of sea water levels will – if not well managed – expose land for unplanned construction activities rather than protecting and expanding the ecosystem protection.

A1. Map 6: Identified target areas and communities along the Caspian Sea shore – Islamic Republic of Iran: target area I.2 – Anzali Lagoon and Sefidroud Delta (not to scale)

Image I.2-1: Areal View onto Bandar-e-Kiashahr

Image I.2--2: Toxins entering wetland in Bandar-e-Kiashahr

Image I.2-3: Azolla plant and damage to the lagoon

Image I.2-4: Wooden Bridge in Bandar-e-Kiashahr

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I.3: Mahmoudabad

A1. Map 7: Identified target areas and communities along the Caspian Sea shore – Islamic Republic of Iran: target area I.3 – Haraz River Estuary (not to scale)

Mahmoudabad is located in the heart of Mazandaran Province, close to the cities of Noor and Freidounkenar. Mahmoudabad, while not an old city, is one of Mazandaran province's tourist destinations, with numerous dachas. It contains the Haraz river estuary, which is contaminated by industrial and domestic run off. The Haraz River Estuary is one of the most densely populated areas along the Iranian northern coast line. The existence of both industrial employment and luxury entertainment centers have caused increasing demand for housing in this area. One of the most serious challenges in this area is the lack of a well managed sewage and waste disposal system which can witjhstand the high levels of consumption. In recent years, signs of heat island effect have been observed in Mahmoudabad.

Image I.3-1: Mahmoudabad

Image I.3--2: Mahmoudabad

Image I.3-3: Garbage dump on the shores of Mahmoudabad

Image I.3-4: Garbage dump on the shores of Mahmoudabad

I.4: Bandar-e-Torkaman

A1. Map 8: Identified target areas and communities along the Caspian Sea shore – Islamic Republic of Iran: target area I.4 – Gorgan Bay/ Miankale Lagoon (not to scale)

Bandar-e-Torkaman or Bandar-e-Shah, is a port city in the southeast of the Caspian Sea. Bandar-e-Torkaman is one of the first cities in the Islamic Republic of Iran to have a railway. The 1,400-kilometer national railway connects Bandar-e-Torkaman at the Caspian Sea to the Persian Gulf and the port of Imam Khomeini. Gorgan Bay and Miankale Lagoon locations are characterized by small cities and villages that expand in an unplanned manner along the coast line. Moreover, this area is one of the most exposed locations to the impact of climate change in terms of being a backwater, frequent flood occurrence, warmer sea water, etc.. Most affected are the townships of Gomishan, Aqqola, Kordkuy, Gaz Port and Torkaman Port of Golestan Provine as well as Galugah and Behshahr townships of Mazandaran Province.

Image I.4-1: Bandar-e-Torkaman

Image I.4--2: Biodiversity loss in Bandar-e-Torkaman

Image I.4-3: Seawater retreat in Bandar-e-Torkamen

Image I.4-4: Seawater retreat in Bandar-e-Torkamen

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ANNEX 2: VULNERABILITY ASSESSMENT SUMMARY WITH FOCUS ON LOCALIZED CLIMATE CHANGE IMPACTS/ HAZARDS AND EFFECTS, UNDERLYING VULNERABILITIES, BARRIERS TO ADAPT AND RESILIENCE BUILDING NEEDS

Below tables A2. Table 1 and 2 are a summary of the vulnerability assessment conducted in target areas in Republic of Azerbaijan and Islamic Republic of Iran.

A2. Table 1: Summery of Vulnerability Assessment focusing on localized Climate Change Impacts/ Hazards and Effects, underlying Vulnerabilities, Barriers to adapt and Resilience Building Needs – ***Republic of Azerbaijan***

District and Communities	**Population**	**Main Climate Change Hazards**	**Effects on Communities and Ecosystems**	**Underlying Vulnerabilities**	**Barriers to adapt**	**Identified Climate Resilience Building Needs**
A.1 Greater Baku Region	Total Population: 2,300,500 Rural Population: 0 Urban Population: 2,300,500 Above 65: 151,800 women & 88,400 men Below 15: 220,100 girls & 248,100 boys Men: 1,144,300 Women: 1,156,200	Heat	Socio-economic: Urban heat waves particularly affect the elderly, children, and people with medical conditions, causing various illnesses, including heat cramps, heat exhaustion, heatstroke, and hyperthermia High temperatures are also a deterrent to active lifestyles and cycling/walking as a transportation modality Continued high temperature affects porosity and durability of infrastructure assets leading to higher maintenance cost and increased road and building safety issues. Environmental: **Urban heat** is leading to changes in vegetation cycles affecting flora and dependent fauna that causes loss of biodiversity.	The following underlying vulnerabilities are present in all four regions: - Low quality drainage systems - Poor sanitation - Poor water infrastructure and a lack of access to year-round potable water - Lack of water retention facilities - Low density of population making adaptation measures on scale difficult to reach all communities (except in Baku) - Poor agricultural practices (N/A in Baku) - Pressure on ecosystems - Tenure insecurity and land conflict - Pollution/ waste management issues - Limited livelihood opportunities and unemployment - Increasing discrepancy between poor and wealthy communities - Poor infrastructure design or maintenance (road, bridge, transport, housing etc.) that is susceptible to heat and flooding - Declining safety and increasing crime levels - Vulnerabilities to external shocks (Covid19) - Low adaptive capacity in terms of awareness of and knowledge to address climate change of local authorities and population	Heat: Replacement of natural land cover with dense concentrations of pavement, buildings, and other surfaces that absorb and retain heat and drive higher local/surface temperatures Lack of green space to provide shading and cooling Insulation in buildings and housing not adapted to heat affecting women, youth and the senior population disproportionately.	Baku: Green public space and connected green corridors to catalyze multiple co-benefits to the community including recreational space, enhanced biodiversity, places for walking, and opportunities for small-scale commercial development.
A.2 Neftchala	Total Population: 89,200 Rural Population: 47900 Urban Population: 41300 Above 65: 5,600 women & 3,200 men Below 15: 9,200 girls & 10,100 boys Men: 44,200 Women: 45,000	Flooding Droughts Fluctuating sea level	Socio-economic: **L**ow water table of the Kura River, low precipitation in the source region of the Kura River and unsustainable river water withdrawal upstream of the Kura River leads to drying out of the Kura River mouth during the dry season. This affects agricultural productivity as farmers rely on water from the Kura River for irrigation. Inflow of seawater into the Kura River during strong coastal winds leads to **salinization** of the river water up to 55km in land. Saltwater ingress has led to significant reduction in fish stocks for local fishermen and women affecting food diversity and income. Surrounding fertile land, groundwater wells, and aquifers show an increased level of salinity leading to reduced agricultural production and cash-based income opportunities which in turn increases poverty. In **drought** season, and where salinization levels of groundwater are high, access to water in wells is scarce which necessitates that communities need to buy potable water that is delivered by trucks from the Salyan Region. This impacts savings and hygiene measures that were critical during COVID-19 pandemic. Especially for elderly people and people with disabilities the commute to buy water from water points during times of water scarcity, is a burden.		**For all main climate hazards** Lack of communication protocol for early warning to trigger preparedness and mitigate the effects on communities Lack of local authority capacity and technology to monitor and communicate heightened climate risks early. Lack of government funding to establish adequate monitoring and warning system. **Hazard specific:** **Floods** Lack of permeable infrastructure and surfaces Poor drainage system Inadequate solid waste management and litter causing clogging of canals and drainage systems. **Droughts** Lack of water retention facilities Lack of water management systems Lack of drought resistant vegetation Reliance on groundwater which can be affected by salinization **Sea level fluctuation** A unique phenomenon in the Caspian Sea means that there is lack of research, scientific knowledge and feasible adaptation options.	Tracking of water discharge, velocity, water table levels, and salinity of the Kura River as well as wind speed from the Caspian Sea. Real-time monitoring system for climate hazard data Wide-spread communication protocol in times of heightened climate risks for better community preparedness

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			Floods also lead to loss of property, damage to critical infrastructure assets, agricultural lands, loss of agricultural production and reduced cash-based income for people working in the agricultural sector. Stagnant water resulting from floods causing increased outbreak of water-borne disease such as dysentery and cholera. **Fluctuation of sea levels leads** to a receding water level, exposing new fragile areas of land to development. The fluctuation of sea level also contributes to salinization of the Kura River. Sea level fluctuation also altered the location of fishing breeding grounds requiring fishers to sail out further from the shoreline to find adequate amounts of fish. Rising petrol costs and longer distance reduces the cash-income of fishermen and women. <u>Environmental:</u> Prolonged **droughts** and **water scarcity** lead to loss of vegetation which in turn leads to loss of breeding grounds for birds and small mammals and loss of pollinating activities from insects, and thus loss of biodiversity. **Salinity** of Kura River affects production of crops, pastures and trees by interfering with nitrogen uptake, reducing growth and stopping plant reproduction Illegal housing built on new fragile land areas along the receding shore due to **sea level fluctuation** illegally discharge of wastewater into the Caspian Sea causing increased algae production adjacent to the shore. The overgrowth of algae consumes oxygen and blocks sunlight from underwater plants. Lack of oxygen threatens aquatic life and biodiversity of flora and fauna. **Flooding** Floodwater is contaminated with pollutants such as agricultural pesticides, industrial chemicals, debris, and sewage. Contaminated floodwater enters ecosystem on land and in the ocean affecting soil and water quality, disrupting delicate ecosystems such as the Kura River delta and coral reefs. Contaminated water adversely impacts breeding grounds, fertility of soil for vegetation, increase algae production which in turn threatens aquatic life and biodiversity of flora and fauna.			
A.3 Astara	Total Population: 110,500 Above 65: 5,700 women and 3,200 men Below 15: 12,900 girls & 14,600 boys Women: 54,900	Drought & Water scarcity	<u>Socio-economic:</u> **Water shortages arising from reduced precipitation, and higher temperatures** leading to water scarcity and limited access to water for agricultural and household		**Water scarcity** Lack of water treatment and ability to recycle water for household and agricultural use	Access to year-around water for irrigation and household purposes through rainwater harvesting and widening rainwater catchment areas. Integrated water management planning recycling stormwater and greywater

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	Men: 55,600		purposes. Consequently, this leads to reduced agricultural productivity. Water scarcity occurs seasonally and necessitates that communities buy potable water. This impacts savings and hygiene measures critical during COVID-19 outbreak. Especially for elderly people and people with disabilities, the commute to buy water from water points during times of water scarcity, is a burden. Environmental: **Water scarcity** leads to loss of vegetation which in turn leads to loss of breeding grounds for birds and small mammals and loss of pollinating activities from insects, and thus loss of biodiversity.		Lack of technology and funding for technology to harvest rainwater Lack of community awareness for sustainable water consumption	Public education of sustainable water practice to avoid overconsumption, outdated irrigation methods. Monitoring of water withdrawal to measure sustainable consumption.

A2. Table 2: Summery of Vulnerability Assessment focusing on localized Climate Change Impacts/ Hazards and Effects, underlying Vulnerabilities, Barriers to adapt and Resilience Building Needs – ***Islamic Republic of Iran***

District and Communities	**Population**	**Main Climate Change Impact/ Hazards**	**Effects on Communities and ecosystems**	**Underlying Vulnerabilities**	**Barriers to adapt**	**Identified Climate Resilience Building Needs**
I.1: Astara	Total Population: 91,257 Rural Population: 39,678 Urban Population: 51,579 Above 65 or below 15: 28,290 Men/Women: 45,858/45,399	Droughts & Water scarcity Flooding due to changes in rainfall patterns with heavy rainfalls	Socio-economic: **Prolonged drought** causing groundwater depletion and **water scarcity**. Communities are drilling deeper wells to access deeper layers of groundwater for agricultural irrigation leading to excessive extraction of groundwater. **Water scarcity** causes loss of agricultural production and reduced cash income for people working in the agricultural sector. In the Astara Region 42% of economic activities are dependent on harvesting and selling fruits and nuts based on the Gilan Province Spatial Plan (2021). Fruit-bearing trees consume more water than non-fruit bearing trees, leading to economic loss and lower-income **Flooding** and sporadic **heavy rains** due to **changes in rainfall patterns** results in decreasing agricultural production and impacting income earning opportunities linked to the agricultural sector which in turn increases poverty. Floods adversely impact durability of infrastructure assets and have led to damage to and destruction of key assets (infrastructure, housing, social services). Stagnant water resulting from floods after heavy rainfall causes increased outbreaks of water-borne diseases such as dysentery and cholera. Environmental: Prolonged **droughts** and **water scarcity** lead to loss of vegetation, which in turn leads to loss of breeding grounds for birds and small mammals, and a reduction in pollinating activities from insects, negatively impacting biodiversity. **Floodwater** is contaminated with pollutants such as agricultural pesticides, industrial chemicals, debris, and sewage. Contaminated floodwater enters the ecosystem on land and in the ocean, affecting soil and water quality, disrupting delicate ecosystems such as the Astara Forest and coral reefs. Contaminated water adversely impacts breeding grounds, fertility of soil for vegetation, increase algae production which in turn threatens aquatic life and biodiversity of flora and fauna. **Reduced number of rainy days annually with increased rainfall per day defined as heavy rainfalls,** leads to increased amounts of run-off water washing out nutrients from soil and transporting pollutants from the catchment area into delicate ecosystems. This disturbs vegetation cycles and increases root damages through fungi-development in the Astara Forest.	The following underlying vulnerabilities are present in all four regions: - Economic downturn due to international sanctions - Limited livelihood opportunities leading to increased unemployment and poverty - Lack of basic services and infrastructure such as water, wastewater and drainage system; - Inadequate waste management and littering; - Poor drainage systems (flooding of roads) - Patriarchal system and gender-stereotypical roles keeping women's adaptive capacity low - Vulnerabilities to external shocks (Covid19) - Poor sanitation systems - Poor water infrastructure - Lack of water retention facilities - Low population density making adaptation measures on scale difficult to implement - Deforestation and land conversion due to agricultural activities and urban encroachment - Pressure on ecosystems - Tenure insecurity and land conflict	**Water Scarcity and Drought** Lack of water treatment and ability to recycle run-off and rainwater for household and agricultural use Lack of technology and financing for technology to harvest rainwater and build water reservoirs and water retention facilities. Lack of community awareness of sustainable water consumption Lack of drought resistant vegetation **Floods and heavy rainfalls** Lack of permeable infrastructure and surfaces Poor drainage system (in terms of quality and draining quantity) Inadequate solid waste management and litter causing clogging of canals and drainage systems. Lack of awareness of the consequences of littering	**Water Scarcity and Drought** Access to year-around water for irrigation and household purposes through rainwater harvesting and widening rainwater catchment areas. **Flooding and changes in rainfall patterns with heavy rains** Integrated water management planning recycling stormwater and greywater Public education on sustainable water management practices to avoid overconsumption and outdated irrigation methods. Permeable infrastructure and surfaces and an adequate drainage system to adapt to floods caused by heavy rains.

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I.2: Bandar-e-Kiashahr	Total Population: 34,954 Rural Population: 20,932 Urban Population: 14,022 Above 65 or below 15: 6,532 Men/Women: 17,862/17,092	Drought Heat Sea level decline	<u>Socio-economic</u>: Bandar-e-Kiashahr Lagoon and mouth of Sefid Rud River qualifies as a Key Biodiversity Area of international significance. It consists of 5 wetlands, 1 forest, 3 shrublands, 4 grasslands and is adjacent to the urban settlements of Bandar-e-Kiashahr city. It is an important centre for commercial fishing, including a large fisheries ground on the south shore, grazing of livestock, reed-cutting and wildfowl hunting. **Changes in rainfall patterns** with less precipitation adversely impacts the delicate wetlands and the networks of drains and rivers connected to the wetlands. Drying up of wetlands leads to increases in dust and sandstorms as well as to loss of fish habitat and fish stocks, causing loss of cash income for fishermen and fisherwomen. It also restricts the calories and diversity of food available to people in the fisheries sector. Reduced rainfall means less run-off water and increased sand sediments in urban areas that can clog the drainage system and corrodes metal-containing infrastructure leading to high maintenance and operational costs and disruption of drainage capacity. **Drought** exacerbates the levels of sand and dust, which in turn increases respiratory health issues, especially for youth, elderly, and people with asthmatic pre-conditions. Droughts adversely impact agricultural land, soil quality, reduce livestock-dependent grazing land and reduce access to clean water in urban areas. Increase of sand and dust storms are a precursor of on-set desertification in Bandar-e-Kiashahr. Declining air quality due to dust particles has reduced tourism and thus led to a loss of income for communities dependent on tourism, which in turn drives increased poverty. **Heat** waves particularly affect the elderly, children, and people with medical conditions, causing various illnesses, including heat cramps, heat exhaustion, heatstroke, and hyperthermia. Continued high temperature affects porosity and durability of infrastructure assets leading to higher maintenance costs and increased road and building safety issues. **Declining seawater level** alters the location of fish breeding grounds requiring fishers to sail out further from the shoreline to find adequate amounts of fish. Rising petrol costs and longer distance reduces the cash-income of fishermen and women. <u>Environmental:</u> The wetlands of Bandar-e-Kiashahr are globally significant; large populations of migratory birds that winter here or use the wetland on their way to and from wintering areas in Africa or the Indian sub-continent. **Drought and heat** impact the Bandar-e-Kiashahr wetlands and beach leading to increased dust accumulation and desertification of the dunes and the shore ecosystem which in turn impacts habitats and causes loss of flora, fauna, and biodiversity **Heat** affects the Key Biodiversity Area critically leading to changes in vegetation cycles affecting flora and fauna and causing a loss of biodiversity. **Change in rainfall pattern causing reduced precipitation** leads to drying up of delicate ecosystems such as wetlands. Changes in soil structures of wetlands releases substantial amounts of CO_2 to the atmosphere due to oxidation of disturbed soil. It also leads to changes in plant or animal communities such as amphibians and wetland invertebrates. Species, such as Poaceae, once uncommon in the wetland area are observed more frequently. Coastal wetlands will be impacted by **sea level decline**, because it leads to a receding shoreline with high salinity levels of the new land. The Bandar-e-Kiashahr ecosystem, especially its wetlands, stretches into these new lands leading to saline soils contaminating freshwater coastal wetlands. The impacts on wetlands fed by a network of channels and rivers can alter water quality, water quantity, and habitat functions.	- Increasing inequality between poor and wealthy communities - Unequal infrastructure distribution (water, wastewater, housing etc.) - Excessive livestock grazing, vegetation removal, drying up of wetlands and the expansion of farmlands -Low adaptive capacity in terms of awareness of and knowledge to address climate change of local authorities and population	High maintenance cost to remove sand and dust sediments from infrastructure assets. Lack of community awareness of sustainable water consumption practices. Lack of drought resistant vegetation. Unsustainable fishing and agricultural practices that increase and exacerbate droughts, extensive extraction of water by farmers for irrigation, growing extraction for non-agricultural uses **Sea level decrease / fluctuation** A unique phenomenon in the Caspian Sea means that there is lack of research, scientific knowledge and feasible adaptation options.	**Changes in rainfall patterns** Systematic management of Key Biodiversity Area, including methods, techniques and expertise, for mapping and prioritizing ecological restoration of wetlands. Improving the effective management of inland waters with emphasis on wetlands and rivers. **Drought** Drought resistant and air-purifying plants **Heat** Shading and cooling provided by increased vegetation **Declining seawater level** Salt-resistant vegetation in the area where sea receded

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I.3: Mahmoudabad	Total Population: 90,054 Rural Population: 58,210 Urban Population: 31,844 Above 65 or below 15: 19,850 Men/Women: 47,728/42,326	Droughts Water scarcity Changes in rainfall patterns with heavy rainfalls and flooding	Socio-economic: **Prolonged drought** causing groundwater depletion and **water scarcity**. Communities are drilling deeper wells to access deeper layers of groundwater for agricultural irrigation, leading to excessive use of groundwater. **Water scarcity** causes loss of agricultural production and reduced cash income for people working in the agricultural sector. **Changes in rainfall patterns with heavy rainfalls and flooding** Despite a reduction in annual rainfall observed over time, the number of rainy days has increased indicating more rainfall per rainy day. These heavy rains cause urban flooding and damage critical infrastructure. Floods adversely impact the durability of infrastructure and have led to damage to and destruction of key assets (infrastructure such as roads, transport networks, drainage systems, housing, social services). Floods occurring inland lead to loss of agricultural land, decreasing agricultural production and impacting income earning opportunities linked to the agricultural sector which in turn increases poverty. Environmental: Prolonged **droughts** and **water scarcity** lead to a loss of vegetation which in turn leads to loss of breeding grounds for birds and small mammals and a reduction in pollinating activities from insects, and thus loss of biodiversity. **Changes in rainfall patterns with heavy rainfalls and flooding** leads to increased amounts of run-off water washing out nutrients from soil and transporting other pollutants from the catchment area into the delicate ecosystem. This disturbs vegetation cycles while floods destroy habitats and decrease biodiversity.		**Droughts** Lack of drought resistant vegetation Water Scarcity Lack of water treatment and ability to recycle run-off and rainwater for household and agricultural use Lack of technology and finance for technology to harvest rainwater and build water reservoirs and water retention facilities. Lack of community awareness of sustainable water consumption practices **Changes in rainfall patterns with heavy rainfalls and flooding** Weak drainage system Lack of permeable surfaces Lack of run-off water management Wastewater contamination during floods Inadequate solid waste management and litter causing clogging of canals and drainage systems. Lack of awareness of consequences from littering	**Droughts and Water Scarcity** Access to year-around water for irrigation and household purposes through rainwater harvesting and widening rainwater catchment areas. Public education on sustainable water management practices to avoid overconsumption and moving away from outdated irrigation methods. Monitoring of water withdrawal to measure sustainable consumption. **Changes in rainfall patterns with heavy rainfalls and flooding** Stormwater management system directing run-off water avoiding flooding and floodwater contamination More permeable surfaces and increased absorption capacity of current surfaces in flood-prone areas Groundwater recharging opportunities through monitoring water extraction and channeling rainwater into aquifers.
I.4: Bandar-e-Torkaman	Total Population: 79,978 Rural Population: 26,008 Urban Population: 53,970 Above 65 or below 15: 15,325 Men/Women: 39,189/40,789	Flooding caused by torrential rains and upstream rivers Drought	Socio-economic: Flooding and torrential rains: Bandar-e-Torkaman is in the low and flat plain of Gorgan region. With no natural alleviation for the run-off water to flow to, weak drainage systems, and lack of permeable surfaces, torrential rainfalls cause flashfloods in the city and hinterlands. Bandar-e-Torkaman contains a network of small rivers that overflow during torrential rains. Flooding results in damage to and loss of property and critical infrastructure, leading to electricity outages, disruption to clean water access and services, inundation of railway and road networks, and loss of pasture, agricultural and orchid land. Reduced agricultural and orchid production and loss of livestock during floods impacts income for farmers and pastoralists, which in turn leads to increased poverty. Reoccurring floods reduce the durability of infrastructure assets leading to higher maintenance and operational costs for the city. Stagnant water and contamination of clean water with floodwater causes increased outbreak of water-borne disease such as dysentery and cholera. **Drought** To date, Bandar-e-Torkaman is located in the top 4 drought provinces of The Islamic Republic of Iran, which means farming activities, livestock, and fishing are badly affected. Prolonged droughts lead to clean water scarcity. In times where flood-causing torrential rains occur during droughts, access to clean water is worsened as the already depleted water source risks contamination with floodwater. This perpetuates health problems such as dysentery, cholera, especially among the poorest communities who cannot afford health care or bottled water. Environmental: **Floodwater** is contaminated with pollutants such as agricultural pesticides, industrial chemicals, debris, and sewage. Contaminated floodwater enters the ecosystem on land and in the ocean affecting soil and water quality, disrupting delicate ecosystems such as the Miankaleh Bay, Gorgan Lagoon, and coral reefs. Contaminated water adversely impacts fish breeding grounds, soil fertility for vegetation, increased algae production which in turn threatens aquatic life and biodiversity of flora and fauna. Prolonged **droughts** lead to loss of vegetation which in turn leads to loss of breeding grounds for birds and small mammals and loss of pollinating activities from insects, and thus loss of biodiversity.		**For all main climate hazards** Lack of communication protocols for early warning to trigger preparedness and mitigate the effects on communities. Lack of local or national authority capacity and technology to monitor and communicate heightened climate risks early. Lack of government funding to establish an adequate hazard monitoring and early warning system. **Drought** Lack of water retention facilities, lack of ability to recycle run-off and torrential rainwater for household, animal husbandry, and agricultural use. Lack of community awareness for sustainable water consumption **Floods and heavy rainfalls** Lack of permeable infrastructure and surfaces Poor drainage system (in terms of quality and draining quantity) Inadequate solid waste management and litter clogging canals and drainage systems. Lack of awareness of consequences from littering	**Flood and Drought** Real-time monitoring system including tracking, evaluating and forecasting of precipitation, temperature, surface and groundwater supplies among climate and hydrological data. Wide-spread communication protocol in times of heightened climate risks for better community preparedness

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ANNEX 3: NATIONAL PRIORITIES ANALYSIS

A3. Table 1: National Climate Change Priorities Analysis – ***Republic of Azerbaijan***

Climate Change Strategic Focus Areas	Relevant Programme Areas	Relevant Policy Actions
Agriculture and Food Security	Governance approach to problem solving	Building and implementing of intergovernmental mechanism for decision making
Disaster Preparedness and Response	Disaster preparedness at the local level	Enforcing and empowering local governments to have local plan for disaster prevention and management
Natural Resource Management	Vision and strategy is needed for managing non-oil natural resources; scheme of dividing local resources with municipalities; proper taxation	Plan and strategy for non-oil sector natural resource management
Equitable Social Development	National programs on development of regions; social development; employment etc	Alignment and harmonization of national programs with international practice
Energy, Industrial and Infrastructure Development	Alternative energy; green development and economy	Alignment and emphasis on sustainable energy and infrastructure development

A3. Table 2: National Climate Change Priorities Analysis – ***Islamic Republic of Iran***

Climate Change Strategic Focus Areas	Relevant Programme Areas	Relevant Policy Actions
Agriculture and Food Security	Review and development of macro-level policies for mainstreaming climate change adaptation into the agricultural sector	- Development of policy refinement and decision-making process - Development of program for managing agricultural inputs and products based on greater compatibility and productivity
	Empowerment (technical, economic, social and cultural) of key stakeholders to take climate change adaptation action	- Enhanced economic, social and cultural capacities - Review and development of technical programs, education and research with the aim of developing the ability to adapt to climate change in the agricultural sector
	Enhanced international interactions	- Planning to develop cross-border agriculture and crop exchange
Disaster Preparedness and Response	Securing villages	Identification of villages at risk of natural disasters with the cooperation of responsible agencies and the participation of people and local institutions
	Increase the safety and resilience of society, prevent and reduce the risks of accidents	- Helping to maintain and promote social capital by empowering people to actively participate in key areas of decision making concerning their lives. - Development and strengthening of the country's disaster preparedness and response. - Enhance public awareness, especially public education, to reduce risks and increase the resilience of society. - Provide sustainable resources in the field of disaster risk management.
Natural Resource Management	Regional and rural climate-oriented development	- Development of alternative and adaptive livelihood promotion programs in local and rural communities. - Review of regional development policies in terms of climate change adaptation principles. - Climate change adaptation sensitive nature tourism.
	Establishment of a management system compatible with climate change	- Complete studies, evaluate and review policies and regulations. - Improve and develop biological resource conservation measures to adapt to climate change. - Completion of the country's environmental monitoring system. - Establishment of a sustainable development system in the exploitation of natural resources. - Integrated management of compatible ecosystems. - Provide a program for the management of natural resources and biodiversity of the country.
	Establish a system of compensatory and supportive measures	- Develop macroeconomic and social development plans.
	Development of research, extension, cultural, public education and training of human resources	- Upgrading the level of expertise of the country. - Public awareness. - Targeted development and alignment in research projects.
	Development of regional and international cooperation	- Creating specialized joint working groups. - Attracting international attention and support.
Equitable Social Development	Benefit of society from women's human capital in the process of sustainable and balanced development	- Strengthening the organizational position of women's affairs. - Applying a gender justice approach.
	Economic growth and development based on justice	- Exploring innovative pathways for generating employment. - Skills development and professional knowledge promotion. - Support for small and home-based businesses. - Supporting knowledge-based jobs
	Regional balance, rural development and empowerment of vulnerable groups	- Allocation of 3% of export revenue from crude oil and net gas condensate exports of natural gas, respectively, third to oil-rich and gas-rich provinces and two-thirds to less developed regions and cities.
Energy, Industrial and Infrastructure Development	Green management program	- Management of energy consumption, water, raw materials, equipment and paper, reduction of waste materials and their recycling in buildings and vehicles, in all executive bodies and public non-governmental organizations and institutions within the framework of relevant laws.
	Upgrading the level of technology in the country's industries and achieving advanced and strategic technologies	- Expand research and development. - Support the generation of innovation potential in the country through supportive systems. - Strengthen the cooperation of scientific, educational, research and industrial centers of the country.

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		- Constructive interaction with advanced scientific and industrial centers of the world. - Assess existing comparative advantages and discover and create new comparative and competitive advantages.
Water Security and Management	Adaptation and integrated water management	- Developing a comprehensive water cycle management system based on the concepts of sustainable development throughout the country's watersheds. - Improving water depletion, supply, and consumption while considering their economic, security, and political worth - Increasing water extraction and decreasing natural and manmade water waste in the country to the greatest extent possible. - Compilation of a comprehensive program for the implementation of dam, watershed, aquifer, and irrigation networks, as well as equipping and leveling land, maintaining water quality, dealing with drought, flood prevention, and recycling and using non-conventional water, as well as promoting knowledge and techniques and bolstering the role of people in extraction and exploitation. - Containment of water that leaves the country and the importance of utilizing shared water resources.

A3. Table 3: Regional Climate Change Priorities Analysis – ***Caspian Sea Region***

Climate Change Strategic Focus Areas	Relevant Programme Areas	Relevant Policy Actions
Water Sea Level Fluctuations	Scientific research on the implications of the sea level fluctuations of the Caspian Sea	- Science Policy platform on the climate change adaptation
	Measures and procedures to alleviate implications of the sea level fluctuations of the Caspian Sea.	- Clearing House Mechanism on Climate Change related information - Climate Change Integrated Coastal Zone Management Guidelines
Biodiversity Protection	Natural ecosystems restoration of the coastal zones	- Ecosystem based coastal planning
Combatting Land-based source of Marine pollution	Prevention, control, reduction and elimination of land-based source of pollution	- Improved management of the solid waste - Improved management of the sewage system
Climate Change related data and information	Regional programme to improve the climate change related knowledge in the Caspian Sea region	- Science Policy platform on the climate change adaptation - Clearing House Mechanism on Climate Change related information

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ANNEX 4: OVERVIEW OF CONSULTATIONS, INCLUDING OBJECTIVES, OUTCOMES AND CONCLUSIONS

*A4. Table 1: Stakeholder Consultations - **Republic of Azerbaijan***

Date	Stakeholder	Consultation Objective	Outcome	Conclusion
October 2018 – December 2020	Ministry of Ecology and Natural Resources (national government)	Focal point role to AF and lead of National Steering Committee; raising awareness about project idea and explore areas of synergy; provide input and feedback on Pre-Concept Note and Concept Note; discussions on vulnerability criteria and site selections	Instrumental part of the project at all levels, both at Caspian Sea regional scale as well as national and local components	Recommendation for signature of Memorandum of Understanding to institutionalise the relations at executive level of both the Ministry and UN-Habitat
January 2019 – December 2020	State Committee for Urban Planning and Architecture (national government)	Building awareness about project idea and explore areas of synergy; provide input and feedback on Pre-Concept Note and Concept Note; discussions on vulnerability criteria and site selections; discussion on potential interventions	Instrumental part of the project at all levels, both at national and local scale; implementation of Baku Master Plan support	Recommendation for signature of Memorandum of Understanding to institutionalise the relations at executive level of both the Ministry and UN-Habitat
October 2018 – December 2020	United Nations Resident Coordinator	Discussion about possible involvement; political/ diplomatic dimension of engagement; UN coordination and collaboration – alignment with UN system-wide strategy on sustainable urbanisation	Cooperation and support ensured	More active involvement especially using their connections with sector ministries and government
August 2019 – December 2020	United Nations Food and Agriculture Organization	Discussion about possible involvement; alignment with ongoing projects	Cooperation and support ensured	More active involvement especially using their connections with sector ministries
August 2019 – December 2020	United Nations Development Programme	Discussion about possible involvement; alignment with ongoing projects	Cooperation and support ensured	More active involvement especially using their connections with sector ministries
August 2019 – December 2020	International Organization for Migration	Discussion about possible involvement; implementing partner for nature-based solutions and livelihoods/ skills development component	Cooperation and support ensured; initial ideas for local interventions and approach discussed	More active involvement especially using their connections with sector ministries
December 2019 – April 2020	World Bank	Discussion about possible involvement; alignment with ongoing projects	Cooperation and support ensured	More active involvement especially using their connections with sector ministries
October 2018 – December 2020	ADA University (research/ academia)	Discussion about possible involvement; alignment with ongoing projects	Cooperation and support ensured; clear picture on the project; interest to be part of the project; involvement of faculty of policy analysis and economics to the project	More active involvement especially using their connections with academia; support to the project; willingness to be hub for the project; recommendation for signature of Memorandum of Understanding to institutionalise the relation
January – April 2020	Albert Speer and Partner (private sector)	Discussion about possible involvement; alignment with ongoing projects	Cooperation and support ensured	More active involvement especially using their connections with sector ministries and Greater Baku region
January – February/ August 2020	Port Baku (private sector)	Discussion about possible involvement; alignment with ongoing projects; feedback on involvement of the Port	Cooperation and support ensured; involvement to the project; readiness to assist	More active involvement especially using their connections with government and private sector entities; willingness to be part of the project.
2 October 2020	Ministry of Agriculture	Building awareness about project idea and explore areas of synergy; provide input and feedback on Pre-Concept Note and Concept Note; discussions on vulnerability criteria and site selections; discussion on potential interventions	Instrumental part of the project at all levels, both at national and local scale; implementation of rural-urban components and land management	More active involvement especially using their connections with national and local level decision makers
July - August 2020	Representatives of 4 regions where project is intended to be carried out	To explain them about he projects and get their feedback	Ready to help; interested in such project; would be ready to support to have at least some employment opportunities for their respective communities; interested in the innovative nature of the project in terms of local development	More explanations at local/ municipality level about the benefits of the project needed in order to confirm local interventions and climate change adaptation measures
2 August 2020	Academy of Science (research/ academia)	Description of the project; presentations on major outcomes of the project; getting feedback on ion the vulnerability criteria and target area selection	Involving various institutions of the Academy; getting advice on site selections; formulating better picture of the project	Support and encouragement for the project; support for future initiatives. recommendation for signature of Memorandum of Understanding to institutionalise the relation
16 November 2020	Temiz Sheher, Garbage Processing Plant in Baku	Discussion about problems of garbage collection in Baku and surrounding areas	Supportive of any garbage collection initiatives	Involve them more at higher level; they have good experience
7 March 2022	United Nations Food and Agriculture Organization	Discussion on the existing challenges in the country from the perspectives of the climate change adaptation, on-going projects dealing with them and potential pilot activities and sites for the project	Cooperation and support ensured	More active involvement especially using their connections with sector ministries
7 March 2022	United Nations Development Programme	Discussion on the existing challenges in the country from the perspectives of the climate change adaptation, on-going projects dealing with them and potential pilot activities and sites for the project	Cooperation and support ensured	More active involvement especially using their connections with sector ministries
9 March 2022	Ministry of Ecology and Natural Resources of Azerbaijan	Discussion on the existing challenges in the country from the perspectives of the climate change adaptation, on-going projects dealing with them and potential pilot activities and sites for the project	Cooperation and support ensured	More active involvement especially using their connections with national and local level decision makers
9 March 2022	Ministry of Ecology and Natural Resources of Azerbaijan	Discussion on the existing challenges in the country from the perspectives of the climate change adaptation, on-going projects dealing with them and potential pilot activities and sites for the project	Cooperation and support ensured	More active involvement especially using their connections with national and local level decision makers
9 March 2022	Ministry of Ecology and Natural Resources of Azerbaijan	Discussion on the existing challenges in the country from the perspectives of the climate change adaptation, on-going projects dealing with them and potential pilot activities and sites for the project	Cooperation and support ensured	More active involvement especially using their connections with national and local level decision makers
10 March 2022	Neftchala ExCom, Neftchala	Discussion on the existing challenges in rayon from the perspectives of the climate change adaptation, on-going projects dealing with them and potential pilot activities for the project	Cooperation and support ensured	More active involvement especially using their connections with local level decision makers
10 March 2022	Astara ExCom, Astara	Discussion on the existing challenges in rayon from the perspectives of the climate change adaptation, on-going projects dealing with them and potential pilot activities for the project	Cooperation and support ensured	More active involvement especially using their connections with local level decision makers
11 March 2022	Ministry of Ecology and Natural Resources of Azerbaijan	Discussion on the existing challenges in the country from the perspectives of the climate change adaptation, on-going projects dealing with them and potential pilot activities and sites for the project	Cooperation and support ensured	More active involvement especially using their connections with national and local level decision makers
28 June 2022	Neftchala District Executive Authority	Presentation and discussion of potential interventions at local level in Neftchala, as well as conduct a field assessment	Support by authorities for establishing an early warning system for salinization, droughts and flooding in Neftchala in the framework of the project	Support and encouragement for the project, more active involvement especially using their connections with local level decision makers

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29 June 2022	Baku City Executive Authority	Presentation and discussion of potential interventions at local level in Baku, as well as conduct a field assessment	Support by authorities for reducing heat risk and greening via establishing a demonstration site of the Green Corridor in Baku in the framework of the project	Support and encouragement for the project, more active involvement especially using their connections with local level decision makers
30 June 2022	Astara District Executive Authority	Presentation and discussion of potential interventions at local level in Astara, as well as conduct a field assessment	Support by authorities for improving water security and management through rainwater harvesting and integrated water management planning in Astara in the framework of the project	Support and encouragement for the project, more active involvement especially using their connections with local level decision makers
1 July 2022	Ministry of Ecology and Natural Resources of Azerbaijan	Presentation and discussion of potential interventions at local level in Neftchala, Baku and Astara	Support to intervention ideas in selected locations in the framework of the project	Support and encouragement for the project, more active involvement especially using their connections with national and local level decision makers
1 July 2022	Ministry of Ecology and Natural Resources of Azerbaijan	To present and get feedback on intervention ideas, as well as to inform about next steps	Support to intervention ideas in the framework of the project	Support and encouragement for the project, more active involvement especially using their connections with national and local level decision makers
1 July 2022	Azerbaijan Hydrometeorological Service	Discussion of establishing an early warning system (Hydrometeorological Station) for salinization, droughts and flooding in Neftchala	Support for the mentioned intervention idea	Support and encouragement for the project, fand or establishing an early warning system

A4. Table 2: Community Survey – ***Republic of Azerbaijan***

Stakeholder Category	Stakeholder Description	Role in Project	Stakeholder Requirements	Importance	Involved Stage
National government	Ministry of Ecology and Natural Resources	Leading Executive Entity	Lead of National Steering Committee	High	All stages
	Ministry of Foreign Affairs	Supporting Executive entity	Institutional support	High	Implementation
	State Committee for Urban Planning and Architecture	Supporting Executive Agency	Technical support and member of the National Steering Committee; Beneficiary of project capacity development	High	All Stages
	Ministry of Internal Affairs	Collaborator/ Executive	Technical support and coordination with local governments	Medium	All Stages
	Ministry of Finance	Financing, Supporting Decision Making	Technical support	Medium	Implementation
	Ministry of Labour and Social Protection	Awareness, Supporting Decision Making	Technical support and member of the National Steering Committee; Beneficiary of project capacity development	High	All stages
	Ministry of Social Affairs	Awareness, Supporting Decision Making	Technical support and member of the National Steering Committee; Beneficiary of project capacity development	High	All stages
	Ministry of Energy	Collaborator/ Executive	National Steering Committee; Beneficiary of project capacity development	High	Proposal, Implementation
	Ministry of Agriculture	Collaborator/ Executive	National Steering Committee; Beneficiary of project capacity development	High	Proposal, Implementation
	Ministry of Culture	Supporting Decision Making	Technical support	Medium	Proposal
	Ministry of Economy	Financing, Supporting Decision Making	Technical support	Low	Proposal
	Azerbaijan Hydrometerological Service	Capacity Building, Data Transfer, Supporting Decision Making	Technical support and member of National Steering Committee	Medium	Concept Note, Proposal
	Ministry of Emergency Situations	Supporting Decision Making, Awareness	Technical support	Medium	Concept Note, Proposal
	Ministry of Youth and Sports	Supporting Decision Making, Awareness	Technical support	Low	Proposal, Implementation
	Ministry of Defence	Supporting Decision Making,	Technical support	Low	Proposal
	Ministry of Education	Awareness, Capacity Building, Knowledge Transferring	Technical support	Medium	Proposal, Implementation
	State Statistical Committee	Supporting Decision Making, Knowledge Transferring	Technical support	Medium	All Stages
Academia and Research	ADA University	Capacity Building, Supporting Decision Making, knowledge Transferring	Technical support	Medium	Proposal, Implementation
	Academy of Science	Capacity Building, Supporting Decision Making, knowledge Transferring	Technical support	Medium	Proposal, Implementation
Private Sector	Albert Speer and Partner	Financing, Partnership, Development	Technical support, implementation partner	Medium	All Stages
	Port Baku	Financing, Partnership, Development	Technical support, implementation partner	Medium	Implementation
	British Petroleum	Financing, Partnership, Development	Technical support, implementation partner	Low	Implementation
Non-governmental organizations	International Dialogue for Environmental Action	Awareness, Supporting Decision Making	Technical support, implementation partner	Medium	All stages
Local government	Municipality of Greater Baku Region	Capacity Building, Supporting Decision Making, Knowledge Transferring	Technical support, implementation partner; Beneficiary of project capacity development	High	All Stages
	Local Executive Authorities	Capacity Building, Supporting Decision Making, Knowledge Transferring	Technical support, implementation partner; Beneficiary of project capacity development	High	All Stages
Local communities	Vulnerable Groups (Elders, Disables, low-income people, unemployed, etc.)	Affected Groups, need to be strengthen, supported, advocated	Technical support, implementation partner; Beneficiary of project capacity development	High	All Stages
	Women (Household head, disable, etc.)	Awareness, Supporting Decision Making	Technical support, implementation partner; Beneficiary of project capacity development	High	All Stages
	Agriculture workers, Fishermen, Seasonal Workers, Tourism sector workers	Awareness, Supporting Decision Making	Technical support, implementation partner; Beneficiary of project capacity development	High	All Stages
	Tourists	Awareness, Supporting Decision Making	Technical support, implementation partner; Beneficiary of project capacity development	High	All Stages
	Migrants, Refugees	Awareness, Supporting Decision Making	Technical support, implementation partner; Beneficiary of project capacity development	High	All Stages

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Service providers	Azersu for water supply and waste management, Azerishiq and Azerenerji for electricity, Azerigaz for natural gas, Azeristiliktechizat for district heating	Collaborator/ Executive	Technical support, implementation partner; Beneficiary of project capacity development	High	All Stages
United Nations	Resident Coordinator	Coordinator	Institutional support	High	All Stages
	United Nations Development Programme (UNDP)	Collaborator	Coordination, technical support and alignment of prgramming; implementing partner	High	All Stages
	United Nations Food and Agriculture Organization (FAO)	Supporting Decision Making	Coordination, technical support and alignment of prgramming; implementing partner	High	All Stages
	International Organization for Migration (IOM)	Collaborator	Coordination, technical support and alignment of prgramming; implementing partner	High	All Stages
International Financing Institutions	World Bank	Financing, technical support	Upscaling and financing of interventions	High/ medium	All Stages
	European Bank for Reconstruction and Development (EBRD	Financing, technical support	Upscaling and financing of interventions	Medium	Implementation
	Kreditanstalt für Wiederaufbau (KfW)	Financing, technical support	Upscaling and financing of interventions	Medium	Implementation

*A4. Table 3: Stakeholder Analysis– **Republic of Azerbaijan***

Location	Date	Name	Sex	Occupation	Comment
A.1: Siyazan Region	June – December 2020	Mr. Kanan Karimli,	Male	Head of 3rd Regional Department of Ministry of Environment	Due to the prevailing travel and contact limitations to and within the respective communities and municipal areas in the Republic of Azerbaijan, only informal conversations could be held. For the upcoming planned elaboration of the Project Proposal further consultations will have to be held to refine the Concept Note findings.
	June – December 2020	Mr. Senen Mustafayev	Male	Local resident	
	2 November 2020	Ms. Gulnar	Female	Housewife	
	2 November 2020	Ms. Nazaket	Female	Housewife	
A.2: Greater Baku Region, Pirallahi	June – December 2020	Mr. Rufat Makhmud	Male	Advisor, State Committee on Urban Planning and Architecture	
	June – December 2020	Mr. Elkhan Aliyev	Male	Deputy Head of Pirallahi Municipality	
	3 December 2020	Mr. Latif	Male	Taxi driver	
	3 December 2020	Mr. Mehman	Male	Former fisher, unemployed	
A.3: Neftchala Region	June – December 2020	Mr. Kanan Karimli	Male	Head of 3rd Regional Department of Ministry of Environment	
	June – December 2020	Mr. Hikmat Aliyev	Male	Local resident	
	17 October 2020	Ms. Sabina	Female	Teacher	
	17 October 2020	Mr. Mukhtar	Male	Pensioner	
	17 October 2020	Mr.Vagif	Male	Municipality employee	
A.4: Lankaran/ Astara Region	June – December 2020	Mr. Kanan Karimli	Male	Head of 3rd Regional Department of Ministry of Environment	
	June – December 2020	Mr. Tapdig	Male	Unemployed	
	24 October 2020	Mr. Elchin	Male	Farmer	
	24 October 2020	Mr. Yaver	Male	Trader	

*A4. Table 4: Stakeholder Consultations – **Islamic Republic of Iran***

Date	Stakeholder	Consultation Objective	Outcome	Conclusion
October 2018 – December 2020	United Nations Resident Coordinator	Discussion about possible involvement; political/ diplomatic dimension of engagement; UN coordination and collaboration – alignment with UN system-wide strategy on sustainable urbanisation	Cooperation and support ensured	More active involvement especially using their connections with sector ministries and government
August 2019 – December 2020	United Nations Food and Agriculture Organization	Discussion about possible involvement; alignment with ongoing projects	Cooperation and support ensured	More active involvement especially using their connections with sector ministries
August 2019 – December 2020	United Nations Development Programme	Discussion about possible involvement; alignment with ongoing projects	Cooperation and support ensured	More active involvement especially using their connections with sector ministries
August 2019 – December 2020	International Organization for Migration	Discussion about possible involvement; implementing partner for nature-based solutions and livelihoods/ skills development component	Cooperation and support ensured; initial ideas for local interventions and approach discussed	More active involvement especially using their connections with sector ministries
12 January 2020	National Steering Committee	Discussion about the involvement of Stakeholders and identification of the key members of the national steering committee and coordination for the local consultations	Cooperation and support ensured; initial ideas for local interventions and approach discussed	Participants to submit their additional comments in response to questions of the consultation meeting to UN-Habitat UN-Habitat to prepare a revised pre-concept report considering the comments expressed in the meeting The revised draft pre-concept note to be shared with all relevant stakeholders, as well as UN-Habitat and UN-Environment headquarters.
12 July and 3 August 2020	Department of Environment	Explain the goals and components of the project; Survey of local officials on the challenges and bottlenecks in the Caspian Sea coastal areas; Coordination of Steering Committee Meeting; Awareness of management experiences and concerns in the field of environmental hazards at the coast	Contribute to a deeper understanding of the challenges and risks of environmental issues; Assist in selection of target communities and vulnerable groups	Prepare a questionnaire to prioritize challenges and proposed measures and distribute it among local authorities
9 June and 7 July 2020	Ministry of Foreign Affairs	Explain the goals and components of the project; Awareness of the conditions and work process of the ministry for coordination in the regional component	Facilitate project implementation mechanisms in the regional component	Coordinating the steering committee meeting Announce the readiness of the ministry to cooperate fully to advance the project
15 June, 1 July and 28 September 2020	Ministry of Roads and Urban Development	Explain the goals and components of the project; Awareness of current plans and programs of this ministry in the target communities; Understanding executive mechanisms and management system for project preparation and implementation; Awareness of the experiences and opinions of national and local officials in the field of urban planning challenges and its relationship with climate change; Awareness of the adaptive actions and policies of this ministry in relation to urbanization and climate change adaptation	Clarifying the challenging link between urbanization and climate change on the Caspian Sea coast; Recognize the obstacles and challenges of implementation at the local and national scale; Awareness of past experiences and existing expert knowledge	Determining the date, goals, place and invited members for the Steering Committee meeting Establish a relationship between the consultant supporting the drafting of the Concept Note and other stakeholders on a national and local scale
29-30 July and 2-3 September 2020	Local Consultations (Bandar-Torkaman, Mahmoudabad, Bandar- Kiashahr, Astara)	Risk and Vulnerability Assessment; Interview with the vulnerable groups	Analyzing the level of vulnerability and adaptive capacities; Identification of the major challenges caused by climatic hazards and their needs	More explanations at local/ municipality level about the benefits of the project needed in order to confirm local interventions and climate change adaptation measures
7 October 2020	Representatives of Steering Committee: - Ministry of Roads and Urban Development - Department of Environment - Ports and Marine Organization	Familiarize stakeholders with the nature and process of the project; Obtain stakeholder feedback on executive and managerial challenges; Awareness of stakeholder suggestions on selecting target areas; Recognize the existing challenges from specialized perspectives (based on the experience and knowledge of each representative); Awareness of stakeholder suggestions for better understanding of vulnerable groups and other stakeholders	More accurate understanding of vulnerable communities; Complete the list of stakeholders; Use the experiences and achievements of ICZM in the project	Pay attention to the project implementation challenges Prevent the creation of a parallel organizational structure for the project (use of existing structures and working groups) Need to approve the achievements of the project in the Supreme Council of Urban Planning and Architecture (in order to have an executive guarantee)

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	- Ministry of Foreign Affairs - National Committee for Human Settlements			
28 October 2020	Director of Integrated Coastal Zone Management Studies	Explain the goals and components of the project to the officials; Building on achievements of ICZM Project in identifying vulnerable communities, types of environmental hazards, risk rating, etc.	Assist in risks analysis in the target areas; Assist in refining criteria for selection of target areas and vulnerable communities; Review vulnerability criteria and help refine identification of vulnerable communities; Outline future scenarios if no action is taken to address urbanization and adapt to climate change; Awareness of managerial and executive challenges	Prepare a summary of ICZM studies for use in the project
15, 22 and 29 June 2021	Local Consultations (Bandar-Torkaman, Mahmoudabad, Bandar- Kiashahr, Astara)	Risk and Vulnerability Assessment	Finalization of Target Communities	Support and encouragement for the project, more active involvement especially using their connections with local level decision makers
8 September 2021	National Steering Committee	Familiarizing stakeholders with the nature and process of the project; Awareness of stakeholder suggestions on selecting adaptation measures; Awareness of stakeholder suggestions for better understanding of vulnerable groups and other stakeholder	Obtaining stakeholder feedback on executive and managerial challenges; Recognizing of existing challenges from specialized perspectives (based on the experience and knowledge of each representative)	Common understanding of the risk and vulnerability profile Common understanding of the implementation modality and budgeting, Common understanding of the potential list of adaptation measures.
21October 2021	Local Consultations in Bandar-Torkaman including City Council, Municipality, Meteorological organization, National Habitat Committee, Province government, General direction of roads and urban development, Agricultural Institute, NGOs, Welfare Organization	Risk and Vulnerability Assessment Discussing Potential Concrete Measures	Analyzing the level of vulnerability and adaptive capacities Short-list of adaptation concrete measures Role and Responsibility plan to help the proposal team	Identification of the major challenges caused by climatic hazards and their needs Drafting a road map to finalize the concrete measures and preparing investment sheets.
23 October 2021	Local Consultations in Mahmoudabad including City Council, Municipality, Regional water company, Water and Sewage System Organization, Province government, General direction of roads and urban development, NGOs, Welfare Organization	Risk and Vulnerability Assessment Discussing Potential Concrete Measures	Analyzing the level of vulnerability and adaptive capacities Short-list of adaptation concrete measures Role and Responsibility plan to help the proposal team	Identification of the major challenges caused by climatic hazards and their needs Drafting a road map to finalize the concrete measures and preparing investment sheets.
24 October 2021	Local Consultations in Bandar-e-Kiashahr including City Council, Municipality, Local office of DoE, Agriculture Organization, Water and Sewage System Organization, Province government, General direction of roads and urban development, NGOs, Welfare Organization, University of Gilan	Risk and Vulnerability Assessment Discussing Potential Concrete Measures	Analyzing the level of vulnerability and adaptive capacities Short-list of adaptation concrete measures Role and Responsibility plan to help the proposal team	Identification of the major challenges caused by climatic hazards and their needs Drafting a road map to finalize the concrete measures and preparing investment sheets.
26 October 2021	Local Consultations in Astara including City Council, Municipality, Local office of DoE, Housing Foundation, Water and Sewage System Organization, Province government, General direction of roads and urban development, NGOs, University of Gilan	Risk and Vulnerability Assessment Discussing Potential Concrete Measures	Analyzing the level of vulnerability and adaptive capacities Short-list of adaptation concrete measures Role and Responsibility plan to help the proposal team	Identification of the major challenges caused by climatic hazards and their needs Drafting a road map to finalize the concrete measures and preparing investment sheets.
3 March 2022	Ministry of Foreign Affairs	Negotiation on Implementation modality and budgeting	Cooperation and support ensured	The need to hold the 4th National steering committee with presence of local authorities as well
20 April 2022	National Committee for Habitat	Negotiation on the 4 level components of the project and the ways of completing the full proposal document stage	Cooperation and support ensured	The need to hold the 4th National steering committee with presence of local authorities as well
1 June 2022	Ministry of Road and Urban Development / National Steering Committee	Negotiation on the 4 level components of the project and the ways of completing the full proposal document stage including the modality, budgeting, and endorsement	Consensus on the necessity of assisting the proposal preparation team with providing evidence, supporting, and facilitating. Necessity of incorporating the major issues of the targeted communities like waste, livelihood, etc.	The members of the steering committee are to provide the written comments on the proposal documents to be incorporated by the team
10 June 2022	Local Consultations in Astara including City Council, Municipality, Local office of DoE, Housing Foundation, Water and Sewage System Organization, Province government, General direction of roads and urban development, NGOs, University of Gilan, UN- Habitat Country office, Local community	Adaptation Concrete Measure Investment sheet	Finalizing the concrete measures Finalizing the required budget and cost-effectiveness Finalizing the design and justification documents Checking the alignment with national and local policies Checking the equality and gender consideration	Concluding the concrete measure, investment sheet and other requirements from local scale based on a consensus between the stakeholders.
11 June 2022	Local Consultations in Bandar-e-Kiashahr including City Council, Municipality, Local office of DoE, Housing Foundation, Water and Sewage System Organization, Province government, General direction of roads and urban development, NGOs, University of Gilan, UN- Habitat Country office, Local community	Adaptation Concrete Measure Investment sheet	Finalizing the concrete measures Finalizing the required budget and cost-effectiveness Finalizing the design and justification documents Checking the alignment with national and local policies Checking the equality and gender consideration	Concluding the concrete measure, investment sheet and other requirements from local scale based on a consensus between the stakeholders.
12 June 2022	Local Consultations in Mahmoudabad including City Council, Municipality, Regional water company, Water and Sewage System Organization, Province government, General direction of roads and urban development, NGOs, Welfare Organization, Local community	Adaptation Concrete Measure Investment sheet	Finalizing the concrete measures Finalizing the required budget and cost-effectiveness Finalizing the design and justification documents Checking the alignment with national and local policies Checking the equality and gender consideration	Concluding the concrete measure, investment sheet and other requirements from local scale based on a consensus between the stakeholders.
13 June 2022	Local Consultations in Bandar-Torkaman including City Council, Municipality, Meteorological organization, National Habitat Committee, Province government, General direction of roads and urban development, Agricultural Institute, NGOs, Welfare Organization, Local community	Adaptation Concrete Measure Investment sheet	Finalizing the concrete measures Finalizing the required budget and cost-effectiveness Finalizing the design and justification documents Checking the alignment with national and local policies Checking the equality and gender consideration	Concluding the concrete measure, investment sheet and other requirements from local scale based on a consensus between the stakeholders.

*A4. Table 5: Community Survey – **Islamic Republic of Iran***

Location	Date	Name	Sex	Occupation	Comment
I.1: Astara Region, Astara City	3 September 2020	Mr. Salam	Male	Paddy worker	The first round of conversation was held informal due to the prevailing travel and contact limitations to and within the respective communities and municipal areas in the Islamic Republic of Iran. The next two rounds were supported by Ministry of Welfare and active NGOs in the field. The interview was based on recognizing their vulnerability and the urgent needs related to the climatic effects.
	3 September 2020	Ms. Marian	Female	Market trader	
	3 September 2020	Ms. Aqdas	Female	Social worker	
	26 Oct 2021	Mr. Soran	Male	Seasonal worker	
	26 Oct 2021	Mr. Adib	Male	Seasonal worker	
	26 Oct 2021	Ms. Aisha	Female	Market labour	
	26 Oct 2021	Ms. Marzieh	Female	Market labour	
	26 Oct 2021	Mr. Mahmoud	Male	Seasonal worker	
	10 June 2022	Ms. Razie	Female	-	
	10 June 2022	Ms. Aghdas	Female	Housewife	
	10 June 2022	Mr. Reza	Male	Market trader	

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I.2: Anzali Lagoon and Sefidroud Delta, Bandar Kiashahr	2 September 2020	Mr. Mohammad Reza	Male	Labourer	
	2 September 2020	Ms. Salimeh	Female	Labourer at shipping industry	
	2 September 2020	Mr. Morad	Male	Labourer at entertainment company	
	24 Oct 2021	Ms. Soraya	Female	Paddy worker	
	24 Oct 2021	Ms. Fateme	Female	Paddy worker	
	24 Oct 2021	Mr. Karim	Male	Labourer at entertainment company	
	11 June 2022	Mr. Morad	Male	Labourer at entertainment company	
	11 June 2022	Ms. Shirin	Female	Paddy worker	
	11 June 2022	Ms. Nahid	Female	Paddy worker	
I.3: Haraz River Estuary, Mahmoud Abad	30 July 2020	Ms. Tayyeba	Female	Agricultural worker	
	30 July 2020	Mr. Asghar	Male	Paddy worker	
	30 July 2020	Ms. Nayyer	Female	Weaver	
	23 Oct 2021	Ms. Kosar	Female	Weaver	
	23 Oct 2021	Ms. Raheme	Female	Weaver	
	23 Oct 2021	Ms. Nesha	Female	Weaver	
	23 Oct 2021	Mr. Rashid	Male	Seasonal worker	
	12 June 2022	Mr. Bahram	Male	Seasonal worker	
	12 June 2022	Mr. Mahdi	Male	Seasonal worker	
I.4: Gorgan Bay/ Miankale Lagoon, Bandar Torkaman	29 July 2020	Ms. Khatoon	Female	Weaver	
	29 July 2020	Mr. Farooq	Male	Labourer	
	30 July 2020	Ms. Rezvan	Female	Housewife	
	21 Oct 2021	Ms. Hoda	Female	Housewife	
	21 Oct 2021	Mr. Rahim	Male	Labourer	
	13 June 2022	Mr. Naser	Male	Labourer	
	13 June 2022	Ms. Hedieh	Female	Housewife	

A4. Table 6: Stakeholder Analysis – ***Islamic Republic of Iran***

Stakeholder Category	Stakeholder Description	Role in Project	Stakeholder Requirements	Importance	Involved Stage
National government	Ministry of Foreign Affairs	Leading Executive Entity	Lead of National Steering Committee	High	All Stages
	Ministry of Roads and Urban Development	Supporting Executive Agency	Technical support and member of the National Steering Committee; Beneficiary of project capacity development	High	All Stages
	Department of Environment	Supporting Executive Agency	Technical support and member of the National Steering Committee; Beneficiary of project capacity development	High	All Stages
	Ministry of Interior	Collaborator/ Executive	Technical support and coordination with local governments	Medium	All Stages
	Planning and Budget Organization	Financing, Supporting Decision Making	Technical support	Medium	Implementation
	Vice Presidency for Woman and Family Affairs	Awareness, Supporting Decision Making	Technical support and member of the National Steering Committee; Beneficiary of project capacity development	High	All stages
	Ministry of Energy	Collaborator/ Executive	National Steering Committee; Beneficiary of project capacity development	High	Proposal, Implementation
	Ministry of Agriculture	Collaborator/ Executive	National Steering Committee; Beneficiary of project capacity development	High	Proposal, Implementation
	State Welfare Organization of Iran	Supporting Decision Making	Technical support	Medium	Proposal
	Ministry of Industry, Mine and Trade	Supporting Decision Making	Technical support	Medium	Proposal
	Iran Fisheries Organization	Supporting Decision Making	Technical support	Medium	Proposal
	Housing Foundation of Iran	Collaborator/Executive	Technical support	Medium	Proposal, Implementation
	Ministry of Cultural Heritage, Handicrafts, and Tourism	Supporting Decision Making	Technical support	Medium	Proposal
	Ministry of Economic Affairs and Finance	Financing, Supporting Decision Making	Technical support	Low	Proposal
	Geological Survey and Mineral Exploration of Iran	Capacity Building, Data Transfer	Technical support	Low	Proposal
	Meteorological Organization of Iran	Capacity Building, Data Transfer, Supporting Decision Making	Technical support and member of National Steering Committee	Medium	Concept Note, Proposal
	National Disaster Management Organization of Iran	Supporting Decision Making, Awareness	Technical support	Medium	Concept Note, Proposal
	Ministry of Sport and Youth	Supporting Decision Making, Awareness	Technical support	Low	Proposal, Implementation
	Ministry of Defense and Armed Forces Logistics	Supporting Decision Making,	Technical support	Low	Proposal
	Ministry of Education	Awareness, Capacity Building, Knowledge Transferring	Technical support	Medium	Proposal, Implementation
Academia and Research	University of Tehran	Capacity Building, Supporting Decision Making, knowledge Transferring	Technical support	Medium	Proposal, Implementation
	University of Gilan	Capacity Building, Supporting Decision Making, knowledge Transferring	Technical support	Medium	Proposal, Implementation
	University of Mazandaran	Capacity Building, Supporting Decision Making, Knowledge Transferring	Technical support	Medium	Proposal, Implementation
	University of Gorgan	Capacity Building, Supporting Decision Making, Knowledge Transferring	Technical support	Medium	Proposal, Implementation
	Roads, Housing and Urban Development Research Center	Capacity Building, Supporting Decision Making, Knowledge Transferring	Technical support	Medium	Proposal, Implementation
	University of Science and Technology	Capacity Building, Supporting Decision Making, Knowledge Transferring	Technical support	Medium	Proposal, Implementation
Private Sector	G, G, M Chamber of Commerce, Industries, Mining and Agriculture	Financing, Partnership, Development	Technical support, implementation partner	High	All Stages
	Private Banks	Financing, Partnership, Development	Technical support, implementation partner	Medium	Implementation
	Mostazafan Foundation and Execution of Imam Khomeini's Order	Financing, Partnership, Development	Technical support, implementation partner	Medium	Implementation
Non-governmental organizations	Society of Students Against Poverty (Imam Ali)	Awareness, Supporting Decision Making	Technical support, implementation partner	Medium	Proposal
	Mehrafarinane Javan Institute (Golestan)	Awareness, Partnership	Technical support, implementation partner	Medium	Proposal
	Sustainable Development Institute (Mazandaran)	Awareness, Partnership	Technical support, implementation partner	Medium	Proposal

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	Woman Against Pollutions (Gilan)	Awareness, Partnership	Technical support, implementation partner	Medium	Proposal, Implementation
	Woman Against Pollutions (Mazandaran)	Awareness, Partnership	Technical support, implementation partner	Medium	Proposal, Implementation
Local government	Governor of Gilan, Mazandaran, Golestan	Capacity Building, Supporting Decision Making, Knowledge Transferring	Technical support, implementation partner; Beneficiary of project capacity development	High	All Stages
	G, G, M Administration of Road and Urban Development	Capacity Building, Supporting Decision Making, Knowledge Transferring	Technical support, implementation partner; Beneficiary of project capacity development	High	All Stages
	G, G, M Administration of Environment	Capacity Building, Supporting Decision Making, Knowledge Transferring	Technical support, implementation partner; Beneficiary of project capacity development	High	All Stages
	G, G, M Administration of Regional Water Authority	Capacity Building, Knowledge Transferring	Technical support, implementation partner; Beneficiary of project capacity development	High	All Stages
	Parliament Representative	Supporting Decision Making, Knowledge Transferring	Technical and institutional support	Medium	Proposal
	Municipalities and City Councils	Capacity Building, Supporting Decision Making, Knowledge Transferring	Technical support, implementation partner; Beneficiary of project capacity development	High	All Stages
	Representative of Supreme Leader of Iran	Capacity Building, Supporting Decision Making, Knowledge Transferring	Technical and institutional support	Medium	Proposal
	Village Governors and Councils	Capacity Building, Supporting Decision Making, Knowledge Transferring	Technical support, implementation partner; Beneficiary of project capacity development	High	All Stages
	Imam Khomeini Relief Foundation	Financing, Partnership	Technical and institutional support	Medium	Proposal
Local communities	Vulnerable Groups (Elders, Disables, low-income people, unemployed, etc.)	Affected Groups, need to be strengthen, supported, advocated	Technical support, implementation partner; Beneficiary of project capacity development	High	All Stages
	Women (Household head, disable, etc.)	Awareness, Supporting Decision Making	Technical support, implementation partner; Beneficiary of project capacity development	High	All Stages
	Agriculture workers, Fishermen, Seasonal Workers, Tourism sector workers	Awareness, Supporting Decision Making	Technical support, implementation partner; Beneficiary of project capacity development	High	All Stages
	Tourists	Awareness, Supporting Decision Making	Technical support, implementation partner; Beneficiary of project capacity development	High	All Stages
	Migrants, Refugees	Awareness, Supporting Decision Making	Technical support, implementation partner; Beneficiary of project capacity development	High	All Stages
Service providers	To be identified	Collaborator/ Executive	Technical support, implementation partner; Beneficiary of project capacity development	High	Implementation
United Nations	Resident Coordinator	Coordinator	Institutional support	High	All Stages
	United Nations Development Programme (UNDP)	Collaborator	Coordination, technical support and alignment of prgramming; implementing partner	High	All Stages
	United Nations Food and Agriculture Organization (FAO)	Supporting Decision Making	Coordination, technical support and alignment of prgramming; implementing partner	High	All Stages
	International Organization for Migration (IOM)	Collaborator	Coordination, technical support and alignment of prgramming; implementing partner	High	All Stages
International Financing Institutions	To be confirmed	Awareness, Supporting Decision Making	Upscaling and financing of interventions	High/ medium	All stages

A4. Table 7: Stakeholder Consultations – ***Caspian Sea Region***

Date	Stakeholder	Consultation Objective	Outcome	Conclusion
6 February 2020	Ms. Zeljka Skaricic, Priority Actions Programme/ Regional Activity Centre (PAP/RAC), Croatia	- explore lessons learnt from Integrated Coastal Zone Management relevant to the Mediterranean region - discuss adaptability of lessons learnt to Caspian Sea region	- The principal activity of PAP/RAC is Integrated Coastal Zone Management. This approach to managing coastal zones is recognised as the way forward for the sustainable development since the 1992 Rio Conference for its ability to provide solutions to the complex environmental, social, economic and institutional problems of the coastal zones. - PAP/RAC's experience in the Mediterranean region has been applied to the Red Sea and the Black Sea regions - Training centre in Split, Croatia offers training courses for peers on Integrated Coastal Zone Management processes from national and local governments; the training centre would be very interested in working out an applied training programme for the Caspian Sea stakeholders to support countries on their path towards sustainable coastal development - Caspian Sea regional programme on urbanization and climate change adaptation can draw experiences from Mediterranean Strategy for Sustainable Development (MSSD)	- PAP/RAC offers support to Caspian Sea littoral states on their path towards sustainable coastal development. - Support could be realized through activities: (1) on-the-ground activities (Coastal Area Management Programmes - CAMPs, coastal or ICZM plans, national ICZM strategies, etc.); (2) capacity building (different trainings, workshops, consultations, conferences, on-the-job trainings related to particular projects, as well as through MedOpen – PAP/RAC's on-line training on ICZM); (3) awareness raising (different awareness-raising activities in the framework of the on-the-ground projects); and (4) development of methodologies, providing support to development of regional and national policies and preparation of legal documents.
25 February 2020	Regional Steering Committee – Tehran Convention Secretariat (National Liaison Officers and focal points of sector ministries from the Caspian Sea littoral States)	- Familiarize the National Convention Liaison Officers with the pre-concept note" Urbanization and Climate Change in the Caspian Sea region" and receive their feedback	The meeting participants received information on major elements of the project including: 1. Scope of the project concept, including information related to three geographical scopes of the project. 2. Objectives of the project concept to tackle the impacts of the main identified climate change related hazards. 3. Proposed climate change adaptation measures for highlighted hazards will be considered in relation to urbanization processes and through the Integrated Coastal Zone Management. 4. Mains streams of work under the regional components in the framework of the Tehran Convention (Aide Memoire annexed is to Concept Note).	The meeting participants were familiarized with the project concept note. Some of the initial questions were raised with regard to the project objective and its implementation. The meeting participants were also requested to liaise with the relevant officials in their respective countries to seek additional feedback on the Concept Note.
28 July 2020	Regional Steering Committee – Tehran Convention Secretariat (National Liaison Officers and focal points of sector ministries from the Caspian Sea littoral States)	The objective of this consultation was to seek additional feedback from the National (Teheran) Liaison Officers and other relevant officials regarding the regional components under the Tehran Convention which are contained in the Concept Note.	The meeting participants were well familiar with the objective of the Concept Note. The regional part of the Concept Note was found accurate and the previously received written comments were integrated in the new version of the Concept Note (Aide Memoire annexed is to Concept Note).	In general, the participants found the presented regional part of the Concept Note well drafted and acceptable. It was also agreed to share the more advanced draft Concept Note containing the information on the national interventions planned in the Republic of Azerbaijan and Islamic Republic of Iran with the meeting participants.
25 May 2021	Regional Center of Excellence in Split, Croatia – Mediterranean Sea on Integrated Coastal Zone Management Planning	- explore lessons learnt from Integrated Coastal Zone Management relevant to the Mediterranean region - discuss adaptability of lessons learnt to Caspian Sea region	- Good Practices for Integrated Coastal Zone Management in the Mediterranean Region and adaptation to Caspian Sea Region - Outlining of training programme for sector Ministries in Caspian Sea littoral states	- Caspian Sea regional programme on urbanization and climate change adaptation can draw experiences from Mediterranean Strategy for Sustainable Development (MSSD) - Support could be realized through activities: (1) on-the-ground activities; (2) capacity building; (3) awareness raising; and (4) development of methodologies, providing support to development of regional and national policies and preparation of legal documents.
25 October 2021	Regional Steering Committee – Tehran Convention Secretariat (National Liaison Officers and focal points of sector ministries from the Caspian Sea littoral States)	3rd Consultative Meeting of the Tehran Convention Interim Secretariat on the regional component of the Adaptation Fund proposal I Urbanisation and Climate Change Adaptation in the Caspian Sea Region.	It was agreed that the project team would share a more advanced draft of the list of activities that would display the interplay between regional and national components, including the timeline of the regional component before the next consultancy meeting in mid-November. It was also discussed and agreed that the operational schemes can be defined after the final list of the activities would be ready.	Meeting participants agreed to provide written comments for the workplan. It was also agreed to share the more advanced draft Concept Note containing the information on the national interventions planned in the Republic of Azerbaijan and Islamic Republic of Iran with the meeting participants.

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10 November 2021	Regional Steering Committee – Tehran Convention Secretariat (National Liaison Officers and focal points of sector ministries from the Caspian Sea littoral States)	4th Consultative Meeting of the Tehran Convention Interim Secretariat on the regional component of the Adaptation Fund proposal I Urbanisation and Climate Change Adaptation in the Caspian Sea Region	It was agreed to incorporate the comments of the stakeholders into the work plan.	It was decided to extend the deadline for providing comments on the work plan until November 16. It was also agreed that after November 16, the project team will consider all proposals and provide the final draft of the work plan for discussion before the next meeting, which will be held in late November or early December.
23 November 2021	Ms. Zeljka Skaricic, Priority Actions Programme/ Regional Activity Centre (PAP/RAC), Croatia	- explore lessons learnt from Integrated Coastal Zone Management relevant to the Mediterranean region - discuss adaptability of lessons learnt to Caspian Sea region	- Good Practices for Integrated Coastal Zone Management in the Mediterranean Region and adaptation to Caspian Sea Region	- Caspian Sea regional programme on urbanization and climate change adaptation can draw experiences from Mediterranean Strategy for Sustainable Development (MSSD) - Support could be realized through activities: (1) on-the-ground activities; (2) capacity building; (3) awareness raising; and (4) development of methodologies, providing support to development of regional and national policies and preparation of legal documents.
7 December 2021	Regional Steering Committee – Tehran Convention Secretariat (National Liaison Officers and focal points of sector ministries from the Caspian Sea littoral States)	5th Consultative Meeting of the Tehran Convention Interim Secretariat on the regional component of the Adaptation Fund proposal I Urbanisation and Climate Change Adaptation in the Caspian Sea Region	It was agreed to incorporate the comments of the stakeholders into the work plan, agree it with them and present the final version in March 2022.	Meeting organizers informed the meeting participants that the final draft document of the entire programme will be provided in March. The meeting participants agreed to send comments and ideas to the workplan by December 10th. The next regional meeting will be held in January or February 2022.
1 February 2022	Regional Steering Committee – Tehran Convention Secretariat (National Liaison Officers and focal points of sector ministries from the Caspian Sea littoral States)	Consultation with Scientists regarding the "Urbanization and Climate Change Adaptation in the Caspian Sea Region"	Agreement on list of impacts of the main identified climate change related hazards.	It was agreed to concentrate the project aims at tackling the impacts of the main identified hazards: (i) sea level fluctuation and potential decrease; (ii) increased floods; (iii) more intense droughts in the Caspian Sea coasts, particularly in the Republic of Azerbaijan and the Islamic Republic of Iran.
9 February 2022	Regional Steering Committee – Tehran Convention Secretariat (National Liaison Officers and focal points of sector ministries from the Caspian Sea littoral States)	6th Consultative Meeting of the Tehran Convention Interim Secretariat on the regional component of the Adaptation Fund proposal I Urbanisation and Climate Change Adaptation in the Caspian Sea Region	The final draft of the list of activities was agreed by all stakeholders	It was decided to finalize the work plan and list of activities based on the discussions and it was agreed that there would be minor modifications to the outputs and activities after the national component would be finalized.

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ANNEX 5: PROJECT INVESTMENT SHEETS UNDER COMPONENT 3

Please note that further information about all of the investments presented below can be provided upon request. Only key information has been presented here due to space constraints.

Republic of Azerbaijan - Alternative Measures and Rationale for local Interventions

Although different types of adaptation measures had been considered in the three selected locations in the Republic of Azerbaijan, not all of them were suitable for implementation with perspectives of contribution to sustainable adaptation to the impacts of climate variabilities or changes.

After thoroughly reviewing and discussions with the large number of various stakeholders (public institutions in national level as well as local authorities) in the selected regions (capital Baku, Neftchala and Astara districts) the team involved in development of the project document (proposal) had come to conclusion to focus on the adaptation measures selected for investment in the capital city Baku and 2 cities near the southern coastline of Caspian Sea in Azerbaijan, Nefchala and Astara.

The measures are related to the development of a green area in the densely urbanized part of Baku based on the strategic prioritization of the Baku city General Plan 2040, establishment of an Early Warning System in Neftchala city downstream of the river Kura (where few miles from the city it is falling to Caspian Sea) and rainwater harvesting in Astara city.

Hazards	Risk and Vulnerability level	Proposed by	Concrete Measures	Number of Beneficiary	Female Beneficiaries	Persons with disabilities	Youth and children	Elderly	Un-employed	Estimated Overall Costs USD	Rationale
(A.1) AGreater Baku Region											
Heat	High	Local government	Development of a portion of a green corridor	570,800	285,500	18,266	127,517	42,639	21,177	2.055.000 USD	Eastern Baku Bay stretches over 15 ha of brownfield sites, following a deindustrialization of the location. Over the past decade, this area was developed into a densely populated mixed used area, following economic growth resulting in increased land value and real estate demand, leaving almost no space for green urban areas much needed for both a healthier living condition of neighboring communities but also flora and fauna. Thus, the new Strategic General Plan for Baku has prioritized the development of a green corridor along a derelict railway. It will counter the urban heat island effect felt by communities in the wider region. The proposed intervention will develop a pilot area of the corridor for further investments by the city government. The cost-benefit analysis has identified this intervention over the development of a green business park 70km south of Baku or the construction of a recreational boulevard in a sparsely populated island development within the Greater Baku region.
Drought/ floods	Low	Local government	Green business park development							6.000.000 USD	
(A.2) Nefchale											

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Heat	High	Local government	Early Warning System	89,200	41,300	2,854	8,800	47,900	19,300	1.030.000 USD	Nefchala city is located downstream from a transboundary river Kura and during moment of severe heat and a fluctuating water table, the river and the agricultural land irrigated by the river water salinities. Not only does this impact the food security of the region but also has an effect on biodiversity. In order to predict severe heat waves and take active measures for protecting people, economy and environment, there is the need for reliable data on quantitative and qualitative parameters of water for decision makers to take action in due course (government bodies in national level as well as local authorities and wide public) Taking into account two critical incidents occurring during the past 12 years (floods in 2010 causing severe economic damage; drought in 2020), the Ministry of Ecology and Natural Resources as well as the local government prioritized an Early Warning System. This is going to allow them to properly manage the respective clusters of economy and water demand of population. It is going to be indispensable tool in production of data on this important transboundary river which can be also used for the future implementation of Water Strategy of the country being developed nowadays.
Drought	Medium	Local government	Rural irrigation scheme							10.000.000 USD	
(A.3) Astara											
Flooding	Medium	Proposal team, local government	Social housing for people affected by land slides	110,500	55,000	8,900	4,100	27,500	3,563	2,000,000 USD	The construction of a rainwater harvesting system for the coastline boulevard as well as a public building will showcase the water management aspects, both in terms of addressing drought and flash floods. The water will be used for irrigation of public and neighborhood parks, contributing to a greener city, provides recreational facilities and a healthier living environment. Moreover, it contributes to the protection of biodiversity as during drought periods green spaces can be irrigated. This intervention was identified by the local government as the most cost-effective intervention with the largest benefit to the wider communities, including the most vulnerable who tend to stay within the vicinity of their neighborhood.
Drought	High	Proposal team, local government	Rainwater harvesting system							1.030.000 USD	

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GREATER BAKU REGION (Republic of Azerbaijan) I Output 3.1

(1) Hazard to be addressed by intervention and other relevant circumstances

The city of Baku is a large metropolitan area with a large built environment and high and increasing temperatures. Due to the urban heat island effect, heat is a hazard for the city. In addition, there is a desire for additional green and public space, especially to catalyze more alternative modes of transportation, such as walking and public transport.

Figure 1. Former rail lines and site of proposed hybrid green corridor.

Deliverables	Development of a portion of a green corridor
Beneficiaries	570,800
Budget	2.055.000,00 USD
Location	Baku city center, Republic of Azerbaijan

A Master Plan for Baku has been developed in which several projects have been identified, including a hybrid, green corridor that would convert former rail lines, which are not currently in use, into green public space as well as a light rail corridor. Consultations with government entities in Baku identified how funding a demonstration site in this corridor could help reduce heat and have important co-benefits in encouraging walking as an alternative means of transportation, business development and health benefits in the area.

(2) Summary of concrete adaptation measure

Green corridors are an adaptive measure that can address **heat, as well as flooding** and provide multiple co-benefits to the community including public space, enhanced biodiversity, places for walking and recreation, and opportunities for commercial development. A hybrid green corridor was identified in the recently completed Master plan for Baku.

The aims of the Hybrid Green Corridor as per the Master plan are described below.

Transforming a former cargo rail track into a Hybrid Green Corridor:

- enhances the connection within the city;
- creates pedestrian and slow mobility connection between Gənclik and Bakı bulvarı;
- serves in parallel as attractive urban recreation, activity and leisure space for visitors and local inhabitants;
- bridges education, start-up, co-working, office, new residential living forms, and active leisure opportunities; and

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- preserves the existing natural habitat + functions as a climate-active recreation spine.

The Adaptation Fund project will cover an **initial phase of the greening of the corridor** on the site shown below. It will include clean-up and remediation of the site and greening with native and drought-resistant plant species. Potential designs are shown below. The plants will be watered through a **rainwater harvesting system**. The advantages of a rainwater harvesting system are it could decrease the demand from the main water supply and its low maintenance costs. The greening process will be supported by a **feasibility study** with concrete design plans, remediation needs and identifying native and drought-resistant plans

In addition to the initial phase of the corridor, there will be **capacity development on urban climate adaptation and finance** in Baku and the development of investment plans to catalyze further finance for the Hybrid Corridor. The training will focus on innovative finance mechanisms, including those that involve private finance such as blended finance and green bonds. A **draft investment plan** for the remainder of the corridor will be developed as a result of the training. This investment plan will consider blended finance. The investment will also engage with the **private sector** on adaptation finance and commercial development along the green corridor. To address a knowledge gap, a **study** on the design of gender-sensitive green and public spaces will be commissioned. The investment will be strengthened through an **ESIA based on the feasibility study** and subsequent monitoring.

The selected site is part of the Baku City General Plan 2040[8]. It was identified in consultation with the Baku City Executive Authority and State Committee for Urban Planning and Architecture. These stakeholders will be involved in the upkeep of the green corridor. The capacity development on climate finance, draft investment plan and private sector engagement will help to identify future funding.

(3) Location of investments

Figure 2. Site identified based on field visit

[8] https://arxkom.gov.az/en/bakinin-bas-plani

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(4) Technical design

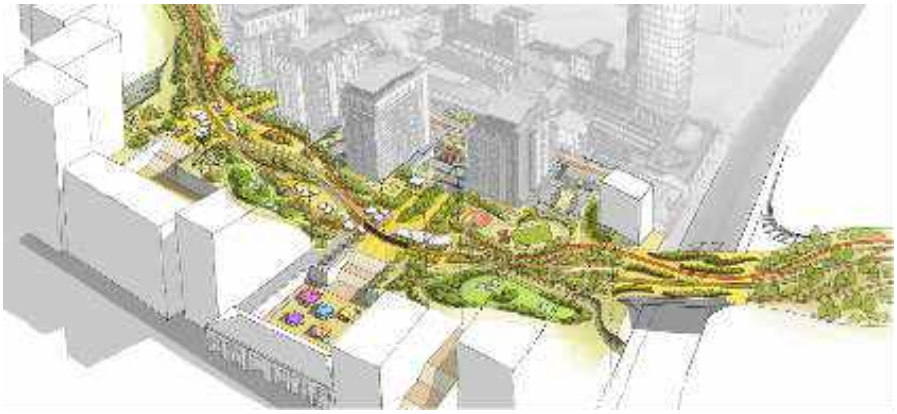

Figure 3. Conceptual Design of Corridor from Master Plan

Figure 4. Design of public and green space in the Master Plan

(5) Cost effectiveness – budgets and beneficiaries

5a. Budget

Item	Location	Allocated budget (USD)		Notes
Executing Entity – personnel and office cost				Sub-Total: 335,000 USD
Rehabilitation, construction and planting of initial green and public space site in the Hybrid Corridor	Baku	Equipment (e.g., plants, engineering, reconstruction, etc.)	290,000 USD	Sub-Total: 1,120,000 USD
		Maintenance forecast	80,000 USD	

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		Construction	440,000 USD	
		Labour cost	240,000 USD	
		Field missions for technical expertise and monitoring	10,000 USD	
		Contractual Services	60,000 USD	
Rainwater harvesting system for plants and greenspace	Baku	Maintenance forecast	90,000 USD	Sub-Total: 270,000 USD
		Construction	30,000 USD	
		Labour cost	65,000 USD	
		Field missions for technical expertise and monitoring	55,000 USD	
		Contractual Services	30,000 USD	
Feasibility study with concrete design plans, remediation needs, and native and drought resistant plant options[9]	Baku	Contractual Services	45,000 USD	Sub-Total: 60,000 USD
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	10,000 USD	
Capacity development on urban climate adaptation and finance		Contractual Services	35,000 USD	Sub-Total: 50.000 USD
		Venue and refreshments	10,000 USD	
		Translation/ Interpretation	5,000 USD	
Environmental Impact Assessment Report (ESIA) and gender expertise and monitoring	Baku	Contractual Services	15,000 USD	Sub-Total: 30,000 USD
		Field missions for technical expertise and monitoring	10,000 USD	
		Translation/ Interpretation	5,000 USD	
Community consultations	Baku	Contractual Services	10,000 USD	Sub-Total: 35,000 USD
		Venue and refreshments	15,000 USD	
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	5,000 USD	
Draft investment plan to develop the remainder of the hybrid, green corridor, including considering blended finance	Baku	Contractual Services	40,000 USD	Sub-Total: 65,000 USD
		Workshop venue and catering (2 x 2 days each)	5,000 USD	
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	5,000 USD	
		Editing and layout design	10,000 USD	
Private sector engagement in adaptation finance and commercial development along the green corridor	Baku	Contractual Services	10,000 USD	Sub-Total: 50,000 USD
		Workshop venue and catering (2 x 2 days each)	12,000 USD	
		Field missions for technical expertise and monitoring	20,000 USD	

[9] including climate adaptation expertise on urban adaptation measures and blended finance..

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		Translation/ Interpretation	3,000 USD	
		Editing and layout design	5,000 USD	
Recommendations for the design of gender-sensitive green and public space based on a study	Baku	Contractual Services	30,000 USD	Sub-Total: 40,000 USD
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	2,000 USD	
		Editing and layout design	3,000 USD	
		TOTAL		**2.055.000,00 USD**

5b. Beneficiaries[10]

The number of beneficiaries is based on the number of people living in three districts (Nasimi, Khatai and Narimanov) that are located in the area of the green corridor. Below are the numbers based on official statistics. Additional categories of key beneficiaries for which there is no data include migrants, single-parent households, seasonal and informal workers and small business owners.

	Total	**Female**	**Male**
Total (District)	570,800	285,500	285,300
Urban	570,800	285,500	285,300
Elderly (65 +)*	42,639	21,327	21,312
Youth and children (under the age of 15)	127,517	63,781	63,736
Unemployed*	21,177	10,592	10,585
Persons with disabilities*	18,266	9,136	9,130

**Based on the national average due to a lack of localized data.*

(6) Relevant Stakeholders

The project idea has been developed in consultation with relevant national stakeholders, including the State Committee on Urban Planning and Architecture, the Ministry of Ecology and Natural Resources and the Baku City Executive Authority. The project idea was also discussed by the National Steering Committee, which includes 17 government entities. The State Committee on Urban Planning and Architecture is the leading stakeholder for the Greater Baku (Hybrid Green Corridor project) with the Ministry of Ecology and Natural Resources of the Republic of Azerbaijan, Baku City Executive Power, Khatai District Executive Power, ADA University, "Bakı Abadlıq Xidməti" LLC, State Tourism Agency of the Republic of Azerbaijan identified as other important stakeholders.

Given the importance of responding to the needs of the community, the project will consult with the local community, including residents as well as business owners with attention to key target groups in the area including, women, youth, the elderly and small business owners.

[10] Source: https://www.azstat.org/portal/tblInfo/TblInfoList.do

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NEFTCHALA (Republic of Azerbaijan) I Output 3.2

(1) Hazard to be addressed by intervention and other relevant circumstances

Neftchala district is affected by flooding and droughts. In May 2010, flooding caused severe damage to several districts and residents had to be evacuated from Neftchala city and the surrounding district. Kura river is the biggest river in the Republic of Azerbaijan. It is a transboundary river with its source in Turkey. It also flows through Georgia before entering the Republic of Azerbaijan. More than 600 km of this transboundary river is in the territory of the Republic of Azerbaijan flowing from the western border of the country to the delta in the Neftchala district where it falls into the Caspian Sea. About 70 km of the river is flowing through the Neftchala district. Neftchala city is located on the river. The district is also adversely affected by the salinization of the Kura River due to the sea level fluctuations in the Caspian Sea. This has resulted in the loss of important environmental and economic services, including farming, livestock raising and fishing.

Figure 5. Kura River in Neftchala City

Deliverables	Delivery of the early warning system
Beneficiaries	89,200
Budget	1.030.000,00 USD
Location	Neftchala district, Republic of Azerbaijan

Consultations with government entities in Baku and Neftchala and communities in the Neftchala district have identified that the impacts of climate change on the local environment are leading to serious consequences for local people. For example, flooding results in the loss of property and decreases agricultural productivity. Saltwater ingress due to sea level fluctuations has led to a significant reduction in fish stocks for local fishermen and women. The water level of the Kura River had been fluctuating often in the past 2 years and as a result of strong winds from the Caspian Sea, the saline water of the sea invaded the river causing severe problems for agriculture, cattle breeding and domestic water use. Representatives of the local authority stated the problems with proper management of water resources because of problems related to outdated hydrometeorology infrastructure in the region, which is not allowing to get reliable data for efficient decision-making on time.

(2) Summary of concrete adaptation measure

The Early Warning System (EWS) is an adaptive measure for climate change, using integrated communication systems to help communities prepare for hazardous climate-related events. A successful EWS saves lives and jobs, land and infrastructures and supports long-term sustainability. Early warning systems assist public officials and administrators in their planning, saving money in the long run and protecting economies. This investment will establish an **EWS for salinization, droughts and flooding** in the Neftchala district. The **monitoring devices** will be installed in **two locations** in the Neftchala district to track the discharge and salinity of the Kura River. The monitoring mechanism will include automatic hydrological stations to measure water temperature, water level and runoff velocity

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as well as portable water discharge monitoring devices to measure water discharge in points that are away from the automatic monitoring stations. The main purpose of the establishment of the **automatic meteorological station** is to measure air temperature, direction and speed of winds, humidity, the volume of precipitation, the number of drought days and other parameters. These accurate data are going to be presented to the decision-makers and planners. Along with these, the data on soil moisture, humidity and soil temperature are going to be obtained through the establishment of an **automatic agro–meteorology station**. All this information (air and soil temperature, moisture etc.) either at the local level (within the scale of certain villages) or at the district level will be observed and managed through a mobile software application. An **automatic marine measure station** will measure the sea level, salinity and temperature of seawater. A situation centre cum server room will be set up. This monitoring mechanism will be a part of the Ministry of Ecology and Natural Resources' network and supplement the meteorological monitoring capacities in the Neftchala district. An **information dashboard** will be installed at the Neftchala District Executive Authority to ensure that real-time information is available to the district-level decision-makers and planners.

The project will also support the Ministry of Emergency Situations in further enhancing **communication of early warnings** among the public with a special focus on vulnerable groups such as women (including women staying behind), the elderly, single parents and persons with disability. **Capacities** of relevant local stakeholders will also be developed on early warning systems and climate-resilient livelihoods. These aforementioned activities will be supplemented by **community-level consultation** and **awareness-raising campaigns**. To address the limited knowledge of the role of nature-based solutions in managing salinization, the project will commission a **scoping stud**y. **Learning exchanges** will be organised with other cities in the Republic of Azerbaijan and the Islamic Republic of Iran. The investment will be strengthened through **ESIA** monitoring.

(3) Location of investments

The selected locations for EWS in this investment are all in the area classified as public land, and thus do not impact private land.

Figure 6. Meteorological Station in Neftchala district.

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(4) Technical designs

Types and specifications of devices

- *Portable (mobile) water discharge measuring device – Acoustic – Doppler – Profiler*

This ADCP device is functioning on ultrasound-based technology. It defines the profile of the riverbed under the water automatically and measures the discharge volume of water in the defined current profile with high accuracy. This device will be useful in conducting measurements of water discharge in points that are away from automatic stations as well as updating current profile parameters in points close to automatic stations.

- *Automatic hydrological stations*

Automatic hydrological stations are used for conducting monitoring of water temperature, the water level in the river and velocity of runoff to measure water discharge and chemical parameters (conductivity, PH, turbidity) of river water. It has to be emphasized that the proposed devices will be operated using only solar energy from solar panels. Austrian production "Sommer" and German-made "OTT Hydromet" can be proposed for automatic hydrological stations.

- *Automatic meteorological station*

This is also a static device that is established at a selected point in the river. The station is installed with an ultrasound wind sensor, precipitation sensor, atmosphere pressure, air temperature and humidity. Devices of Vaisala company from Finland can be proposed for the automatic meteorological station.

- *Automatic agro–meteorology station*

Unlike the automatic meteorology station, this agro–meteorology station is considered for the local area to measure air temperature, humidity, atmospheric pressure, precipitation, wind direction and wind speed, as well as soil temperature and moisture. Besides this type of agro–meteorology stations are able to provide weekly weather forecasts for the selected local area ahead of time through using mobile applications. The USA-made "DTN" agro–meteorology station can be proposed for the automatic agro–meteorology station.

- *Automatic marine measurement station*

Along with meteorological parameters it has functions to measure the sea level, salinity and temperature of seawater. Devices of Vaisala company from Finland or Anderra device of Xylim company from the USA can be proposed for the automatic marine measurement station.

- *Server*

There is also a need to create a server room and install a server in renovated hydrometeorology stationto process the data received from various devices and stations. The data received from various sources will be integrated for further use as early warning information by the specialists of the station. Later this processed data is submitted to decision-making bodies. A corresponding server room equipped with monitors has to be created as a Situation Center, which requires laptops with strong configurations (i.e, RAM, HD etc.). The cabinets of the station has to be renovated as well.

The investment aims to upgrade the agro-meteorological infrastructure in Nefthchala. The measures, including equipment, have been identified in consultation with the Ministry of Ecology and Natural Resources and the Neftchala Executive Authority. They will be users of the equipment. The EWS communication aims to improve the existing protocols of the Ministry of Emergency Situations. The capacity development of government entities will also contribute to sustainability.

(5) Cost effectiveness – budgets and beneficiaries

5a. Budget

Item	Location	Allocated budget (USD)		Notes
Executing Entity – personnel and office cost				Sub-Total: 335,000 USD
EWS equipment (e.g., 2 water level sensors, 2 wind sensors, an information dashboard, etc.)	Neftchala	Equipment	200,000 USD	Sub-Total: 250,000 USD
		Construction	20,000 USD	
		Labour cost	24,000 USD	

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		Field missions for technical expertise and monitoring	6,000 USD	
EWS communication	Neftchala	Equipment	50,000 USD	Sub-Total: 150,000 USD
		Contractual Services	30,000 USD	
		Audio visual product	30,000 USD	
		Field missions for technical expertise and monitoring	10,000 USD	
		Translation/ Interpretation	15,000 USD	
		Edit/ Layout/ Design/ Online Publication	15,000 USD	
Capacity development on EWS	Neftchala	Contractual Services	21,000 USD	Sub-Total: 40.000 USD
		Venue and refreshments	6,000 USD	
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	8,000 USD	
Environmental Impact Assessment Report (ESIA) and gender expertise and monitoring	Neftchala	Contractual Services	15,000 USD	Sub-Total: 22,000 USD
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	2,000 USD	
Community consultations	Neftchala	Meeting venue and catering	10,000 USD	Sub-Total: 18,000 USD
		Transportation and DSA	4,000 USD	
		Editing and layout design	4,000 USD	
Scoping study on the role of nature-based solutions in managing salinization	Neftchala	Contractual Services	40,000 USD	Sub-Total: 50,000 USD
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	5,000 USD	
Awareness raising campaign	Neftchala	Contractual Services – audio-visual product	6,000 USD	Sub-Total: 20,000 USD
		Venue and refreshments	4,000 USD	
		Field missions for technical expertise and monitoring	2,000 USD	
		Editing, layout and design of publication material	8,000 USD	
Climate adaptation expertise on urban adaptation measures	Neftchala	Contractual Services	40,000 USD	Sub-Total: 50,000 USD
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	5,000 USD	
		TOTAL		**935,000,00 USD**

5b. Detailed Budget - Equipment

#	Products	Technical Specifications	Quantity	Unit price (USD)	Total price (USD)
1	Weather Station (AWS)	Air temperature, relative humidity, air pressure, wind direction, wind speed and solar radiation. One external rain sensor is connectable.	1	12,868 USD	12,868 USD
2	Marine Hydrometeorological Station	Sea Level, Conductivity and Salinity, air temperature, relative humidity, air pressure, wind direction, wind speed and solar radiation. One external rain sensor is connectable.	1	23,228 USD	23,228 USD

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3	Hydrology Station (HWS)	Water Discharge, Water Level, Water velocity, Water Quality – Conductivity, Temperature, pH, Turbidity	2	38,472 USD	76,944 USD
4	ADCP (Acoustic Doppler Current Profiler)	River Surveyor M9.Portable ninebeam 3 MHz/1.0 MHz/0.5 MHz acoustic Doppler profiler/discharge measurement system intended for use from moving boats and other floating platforms in medium depth channels. Features bottom tracking, internal discharge calculation, River Surveyor Live! Windows software for real – time display of current profiles, water depth and computed discharge measurements, DGPS/RTK GPS interface, and integration of CastAway-CTD data for sound speed corrections. System also includes a power supply and plastic shipping case.	1	49,253 USD	49,253 USD
5	Agro-meteorological station		3	8,000 USD	24,000 USD
6	Software		1	6,440 USD	6,440 USD
7	Server		1	8,360 USD	8,360 USD
8	Miscellaneous		lumpsum	48,907 USD	48,907 USD

5c. Beneficiaries[11]

The total beneficiaries of the EWS system are the full district of Neftchala. Below are the numbers based on official statistics. Additional categories of key beneficiaries for which there is no data include migrants, single-parent households, seasonal and informal workers, fishermen and women, and agricultural workers.

	Total	Female	Male
Total (District)	89,200	45,000	44,200
Urban	41,300	20,900	20,400
Elderly (65 +)*	47,900	23,800	24,100
Youth and children (under the age of 15)	8,800	5,600	3,200
Unemployed*	19,300	9,200	10,100
Persons with disabilities*	2,854	1,440	1,414

**Based on the national average due to a lack of localized data.*

(6) Relevant Stakeholders

The project idea has been developed in consultation with relevant national stakeholders, including the Ministry of Ecology and Natural Resources and the Neftchala District Executive Authority. The project idea was also discussed by the National Steering Committee, which includes 17 government entities. Given the importance of the last-mile communication of early warning, special attention will be paid to ensure that the early warning is communicated to vulnerable groups such as women (including women staying behind), the elderly, single parents and persons with disability.

[11] https://www.azstat.org/portal/tblInfo/TblInfoList.do

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ASTARA (Republic of Azerbaijan) I Output 3.3

(1) Hazard to be addressed by intervention and other relevant circumstances

Though Astara receives 1600 - 1800 mm of rainfall annually, it has been increasingly experiencing water scarcity. This has resulted in the loss of important environmental and economic services. The Republic of Azerbaijan is one of the four most water-scarce countries in the world, with only about 1000 m3 of water available per capita per year, and it is estimated that this will drop to about 800 m3 per capita per year by the year 2050 as a result of the impacts of climate change and population increase. Over 90% of this water is allocated for agriculture (of which about half is being lost because of old infrastructure and irrigation methodology). Therefore, rainwater harvesting is crucial for meeting future demand.

Figure 7. The Caspian Sea in Astara City, Astara district, Republic of Azerbaijan.

Deliverables	Delivery of rainwater harvesting system
Beneficiaries	110,500
Budget	1,030,000,00 USD
Location	Astara district, Republic of Azerbaijan

Consultations with government entities and communities in the Astara district have identified that the local communities are being adversely impacted by climatic hazards on the local environment are leading to serious consequences for local people.

(2) Summary of concrete adaptation measure

In **Astara**, the investment will focus on improving **water security through rainwater harvesting and integrated water management planning**. The rainfall harvesting from rooftops, roads, and parking lots can increase the water supply for various uses and help combat the chronic water shortage. Harvested rainwater of acceptable quality could be used for different purposes, including drinking, cooking, watering gardens, and indoor and outdoor cleaning. A rainwater harvesting system could decrease the demand from the main water supply and its low maintenance costs. The most expensive part of a rainwater system is usually the storage place itself. If the dry period is too long, large storage tanks are needed. In arid regions, rainwater could also be used to recharge groundwater aquifers rather than for surface storage.

The investment will set up two **rainwater harvesting demonstration sites**, including the Caspian Sea promenade and a school. This work aims at evaluating the potential for potable and non-potable water savings by harvesting rainwater. Based on an initial assessment at the school, over 400 m^3 of rainwater can be collected annually, including 200 m^3 a year of it from roofs of school buildings and 200 m^3 a year from open impervious areas, provided that all surfaces are used and all runoff from the surfaces are collected. Chemical and biological analysis of harvested rainwater will be conducted to to meet the requirement of water treatment for different elements (e.g. nitrate, pathogenic organisms and others). The rainwater harvesting will be supported by a **feasibility study**.

The rainwater harvesting will be supplemented by **public education on water scarcity, use and management**. There will be **capacity development on urban climate adaptation** in Astara. A **costed plan for adaptation solutions and integrated water management including gender-**

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disaggregated water use and a **feasibility study on rainwater harvesting** at the two sites will be commissioned. **Learning exchanges** will be organised with other cities in the Republic of Azerbaijan and the Islamic Republic of Iran. The investment will be strengthened through **ESIA** based on a feasibility study and subsequent monitoring.

The sites for rainwater harvesting have been identified in consultation with the Astara Executive Authority. The Executive Committee will maintain the infrastructure. The rainwater harvesting structure at the Promenade will be connected to the water infrastructure of the town. The capacity development of government entities will also contribute to sustainability.

(3) Location of investments

The selected locations for rainwater harvesting in this investment are all in areas classified as public land, and thus do not impact private land. The locations are the Caspian Sea Promenade (photo below), and thevocational training center.

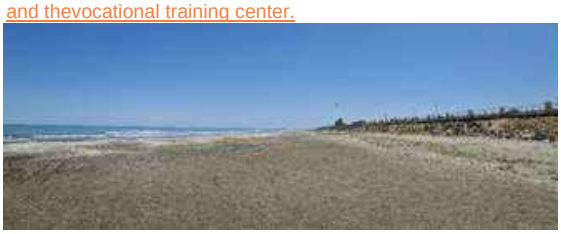

Figure 8a. Caspian Sea Promenade, Astara City, Astara district, Republic of Azerbaijan.

Figure 9b. Caspian Sea Promenade, Astara City, Astara district, Republic of Azerbaijan: catchment surface and location for storage tanks (not to scale)

(4) Technical design – drawings, illustrations, sketches

Each rainwater-harvesting system will consist of preferably identified and prepared waterproof catchment surfaces for collecting the rainwater (e.g., roof or impervious ground surfaces), a delivery system for transporting rainwater from the catchment to appropriate storage tanks (e.g., gutters or surface drains) and the storage tank.

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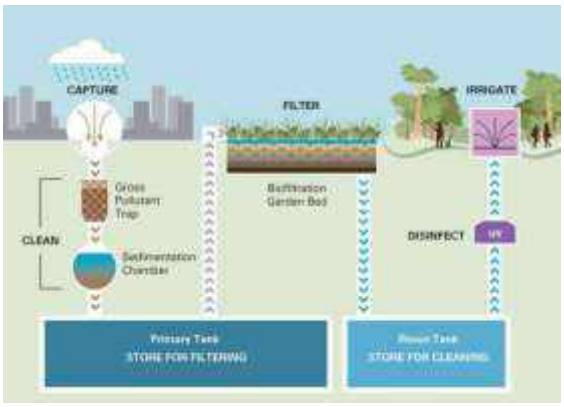

Figure 9a. Rainwater harvesting system design (public), underground tank system

Figure 9b. Rainwater harvesting system design (private household), underground tank system

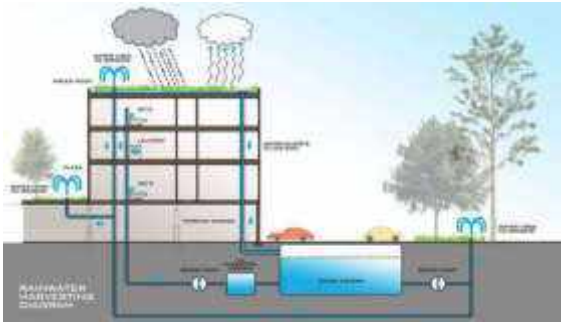

Figure 9a. Rainwater harvesting diagra

It is planned that the rainwater-harvesting system will include the roof, gutter, down pipes, a collecting tank, primary screening and first flush diverters and a water treatment unit.

Storage tanks (plastic or concrete) will be used to store rainwater. Tanks are planned to be built above ground for rainwater from roofs, where water will be treated to meet drinking water standards. Water collected in underground tanks will also be treated to be used in toilets and for the greening of surrounding areas.

The amount of water that can be harvested is calculated according to the equation:

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V = Sum (R*A*RC/1000)

where V is the annual volume of rainwater that could be harvested (m3), R is the average annual rainfall (mm/y), A is the total area used for RWH (m), RC is the run-off coefficient (dimensionless), and 1000 is the conversion factor from mm to m.

The runoff coefficient for any catchment is the ratio of the volume of water that runs off a surface to the volume of rainfall that falls on the surface (Table 1). The runoff coefficient accounts for water losses due to surface material texture, evaporation, losses occurring in gutters, spouts and storage tanks, surface cleaning and inefficiencies in the collection process. Also, wind direction and speed influence water loss from roof surfaces.

Table 1. The volume of harvested rainfall and potential water saving in the school in Astara.

Harvesting area	Area (m^2)	Volume (m^3)
Building's rooftop	400 – 500	200
Open areas	500 – 600	200
Total	1000	400

(5) Cost effectiveness – budgets and beneficiaries

5a. Budget

Item	Location	Allocated budget (USD)		Notes
Executing Entity – personnel and office cost				Sub-Total: 335,000 USD
Rainwater Harvesting System and equipment for four locations (including catchments, coarse mesh, gutters, conduits, filters, storage, etc.)	Astara	Equipment	100,000 USD	Sub-Total: 450,000 USD
		Maintenance	50,000 USD	
		Construction	200,000 USD	
		Labour cost	60,000 USD	
		Contractual Services	20,000 USD	
		Field missions for technical expertise and monitoring	20,000 USD	
Feasibility study on rainwater harvesting covering each of the two sites	Astara	Contractual Services	30,000 USD	Sub-Total: 40,000 USD
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	5,000 USD	
Public education on water scarcity, use and management	Astara	Contractual Services – audio-visual product	15,000 USD	Sub-Total: 40.000 USD
		Venue and refreshments	10,000 USD	
		Field missions for technical expertise and monitoring	5,000 USD	
		Editing, layout and design of publication material	10,000 USD	
Capacity development on urban adaptation and water	Astara	Contractual Services	10,000 USD	Sub-Total: 25,000 USD
		Venue and refreshments	5,000 USD	
		Field missions for technical expertise and monitoring	2,000 USD	
		Translation/ Interpretation	3,000 USD	
		Editing, layout and design of publication material	5,000 USD	
Development of costed plan for adaptation solutions and integrated water management including gender-disaggregated water use	Astara	Contractual Services	55,000 USD	Sub-Total: 80,000 USD
		Meeting venue and catering	5,000 USD	
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	10,000 USD	

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		Editing and layout design	5,000 USD	
Environmental Impact Assessment Report (ESIA) and gender expertise and monitoring	Astara	Contractual Services	15,000 USD	Sub-Total: 30,000 USD
		Field missions for technical expertise and monitoring	10,000 USD	
		Translation/ Interpretation	5,000 USD	
Climate adaptation expertise on urban adaptation measures	Astara	Contractual Services	10,000 USD	Sub-Total: 10,000 USD
Community Consultations	Astara	Venue and refreshments	10,000 USD	Sub-Total: 20,000 USD
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	2,000 USD	
		Editing and layout design	3,000 USD	
		TOTAL		**1,030,000,00 USD**

5b. Beneficiaries[12]

The total beneficiaries of the EWS system are the full district of Astara. Below are the numbers based on official statistics. Additional categories of key beneficiaries for which there is no data include migrants, single-parent households, seasonal and informal workers, fishermen and women, and agricultural workers.

	Total	Female	Male
Total (District)	110,500	54,900	55,600
Urban	8,900	5,700	3,200
Elderly (65 +)*	27,500	12,900	14,600
Youth and children (under the age of 15)	4,100	2,037	2,063
Unemployed*	3,563	1,757	1,779
Persons with disabilities*	8,900	5,700	3,200

**Based on the national average due to a lack of localized data.*

(6) Relevant Stakeholders

The project idea has been developed in consultation with relevant national stakeholders, including the Ministry of Ecology and Natural Resources and the Astara District Executive Authority. The project idea was also discussed by the National Steering Committee, which includes 17 government entities.

Given the importance of rainwater harvesting in conserving freshwater and addressing water scarcity, special attention will be paid to ensure that the relevant information is communicated to vulnerable groups such as women (women staying behind), the elderly, single parents and persons with disability.

[12] https://www.azstat.org/portal/tblInfo/TblInfoList.do

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Islamic Republic of Iran - Alternative Measures and Rationale for local Interventions

Hazards	Risk and Vulnerability level	Proposed by	Concrete Measures	Number of Beneficiary	Female Beneficiaries	Persons with Disability	Female Headed Household	Migrants	Estimated Overall Costs USD	Rationale
(I.1) Astara										
Heat	Medium	Community consultations, local government	5 Pocket Park in City Centers	51,579	25,273	1,254	2,541	2,119	1,250,000 USD	The development of pocket parks is considered an innovative tsolution to addressing urban heat and reducing the effects of heat waves in the city, however it is not selected as the final measure for the city for the following reasons: • Heat hazard is less severe than water shortage. • Due of water shortages, pocket parks may add pressure based on irrigation requirements. • The priority for vulnerable groups is water scarcity, not heat. • Rainwater harvesting at neighborhood level has been identified as a priority and a building step towards greener urban areas.
Drought	High	Local government	Rainwater Harvesting in Social Housing Project						1,005,000 USD	
(I.2) Bandar-e- Kiashahr										
Flooding	Medium	Local government	Dredging rivers and canals and Improvement of drainage conditions	14,024	6,952	1,423	2,752	3,452	1,500,000 USD	According to the priorities of local government, the issue of solid waste is the most challenging. However, link between solid waste management and and climate change adaptation has been identified weak. As a result of river dredging and the creation of a green belt, the local government identified the threat posed by heat significantly greater than that posed by flooding.In addition to the greater economic feasibility, the green belt provides several environmental benefits. The community can actively be engaged in the implementation, maintenance and upkeep in support of the local government. Hence, the local government decided to prioritize the green belt initiative.
Heat	High	Local government	Planting a green belt to protect the coast and the city						1,005,000 USD	
Drought	Medium	Local government	Site selection and construction of disposal and recycle site						2,500,000 USD	
(I.3) Mahmoudabad										
Flooding	High	Proposal team, local government	A stormwater drainage system	31,844	18,025	630	2,400	2,650	1,005,000 USD	The local government considered the water recycling system equally important as the stormwater management system. As the vulnerable communities to the west of the city are significantly impacted by stormwater during autumn and winter, most recently also during summer months. In accordance with ICZM's recommendation, stormwater management was the most pressing concern in this region. In addition, studies conducted by agricultural institutes concluded that mangroves are not indigenous to this region. Therefore, stormwater management was the most advantageous and realistic choice.
Drought	Medium	Proposal team, local government	Water recycling system in Public Buildings						2,000,000 USD	
Heat	Medium	Proposal team	Mangrove Plantating						900,000 USD	
(I.4) Bandar-e-Torkaman										
Drought	High	Proposal team	Social Housing Construction	53,790	25,530	1,200	2,500	2,100	3,000,000 USD	Three years ago, a severe flood affected Bandar-e-Torkaman, and until today, some residents have been residing in temporary shelters. Therefore, social housing initiative was proposed. In addition, the local government proposed the construction of a safe haven for disaster - affected. The aforementioned measures have been implemented during the proposal preparation process supported by the national government. All of these measures, however, remain at risk in the absence of an early warning system because of the unexpected nature of floods in the region. Therefore, both the proposal team and the local administration concluded that the early warning system is the best course of action there.
Flooding	High	Local government	Construction of multi- safe havens						950,000 USD	
Flooding	High	Community consultations, local government	Establishment of a city-wide early warning system for floods						1,005,000 USD	

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ASTARA (Islamic Republic of Iran) I Output 3.4

(1) Hazard to be addressed by intervention and other relevant circumstances

Astara district is affected by droughts and flooding. Water scarcity has plagued the city of Astara in recent years. The region's rainfall pattern has been disrupted as a result of climate change, so that despite a reduction in annual average rainfall, high rainfall on certain days of the year (over 400 mm) causes waterlogging and urban flooding.

Figure 10. Landscape of Astara City

Deliverables	Delivery of rainwater harvesting system
Direct Beneficiaries	1,860
Budget	1.005.000,00 USD
Location	Astara district, Islamic Republic of Iran

Consultations with government entities and communities in the Astara city has identified that the local communities are being impacted by climate change and its effects on the local environment are leading to serious consequences for local people. For example, due to drought many people are digging wells resulting in excessive use of underground water resources. This affects the agricultural production in the region.

(2) Summary of concrete adaptation measure

Rainwater Harvesting System (RHS) is a climate change adaptation measure that uses a reservoir system to assist communities in water management during times of drought. Given that rainfall is sporadic and that only a small proportion of precipitation is easily available for human use, rainwater harvesting can be an efficient means of capturing that precious resource. In Astara, much of the rain that falls on buildings, roofs, roads, and other hard landscaping does not percolate into the soil and is instead directed into storm sewers for disposal. Impermeable surfaces cause urban flooding in many areas and generate contaminated unusable water that is directed away from potable water resources. A successful RHS saves water and significantly reduces water consumption, resulting in more effective water management. This investment will be used to build 18 RHS systems in a social housing project in Astara. The government will create a social housing project (624 units) for low-income households, and the RHS system will contribute to its sustainability by saving water and adapting to the drought. This will be supplemented by **public education on water scarcity and use**, **projections for future water supply** based on climate change projections and water demand based on urbanization prospects and **costing of adaptation solutions for water management**.

The rainwater harvesting will be supplemented by **public education on water scarcity, use and management**.

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A **projection of future water supply** based on climate change projections and water demand due to urbanization prospects, a **costed plan for adaptation solutions and integrated water management including gender-disaggregated water use** and a **feasibility study on rainwater harvesting** at the four sites will be commissioned. **Capacities** of officials will also be developed on urban adaptation measures and water. **Learning exchanges** will be organised with other cities in the Republic of Azerbaijan and the Islamic Republic of Iran. The investment will be strengthened through **ESIA** based on a feasibility study and subsequent monitoring. Additional technical expertise on gender, climate change adaptation and sustainable water management will be brought to the project.

(3) Location of investments

The RHS will be constructed as part of the social housing project, which will feature 18 buildings. The timeframe for the project is 2 years. The required spaces and technical specifications of the RHS will be incorporated into the social housing design in consultation with the Astara Municipality and the General Director of Gilan Road and Urban Development to implement this investment, since the project is currently in the permission stage.

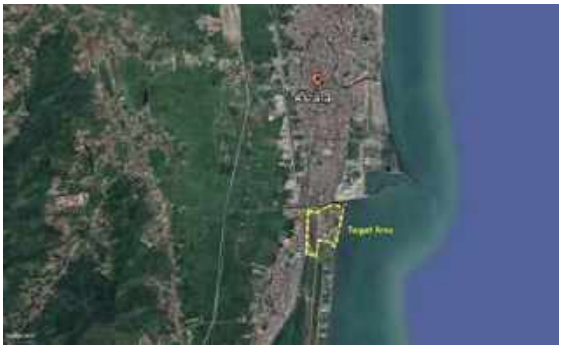

Figure 11. Location of the investment

Figure 12. Social Housing Project Scheme in Astara city (Islamic Republic of Iran)

(4) Technical designs

Rainwater harvesting systems range from basic rain buckets to constructions with pumps, storage tanks, and purifying systems. The nonportable water can be cleaned and used to irrigate landscape,

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flush toilets, wash cars, and launder clothes. It can also be used for human consumption. As water shortage is a major issue in many densely populated places, rainwater harvesting systems can provide households and businesses with water for usage during dry seasons and reduce the strain on municipal systems. Rainwater collection for nonportable uses, such as gardening and laundry, greatly reduces both the total fresh water demand and the burden on stormwater infrastructure. The simplest rainwater harvesting systems are non-pressurized systems, such as rain barrels, in which pipes lead from rain gutters to a storage tank. These installations, known as "dry systems," do not provide breeding grounds for mosquitoes and other insects because they do not retain any water in their pipes after it stops raining. "Wet systems" are required when pipes cannot be arranged to run directly into the tanks. In locations where the tanks are placed at a considerable distance from the collection surfaces or when there are a series of tanks serving a number of buildings, pipes from the gutter go underground before ascending a riser and entering the tank. Such systems are frequently pressured to prevent stagnant water from accumulating in lengthy stretches of pipe. Particularly in wet systems, pipes and all other openings must be insect-proof in rainwater collecting systems that have been thoughtfully constructed. In addition, wire mesh screen covers placed on all tank inlets can prevent debris from entering the tank. The collection surfaces (mostly roofs) should be built of nontoxic materials, avoiding lead-based paints and membranes in particular, and the tanks should be made of nontoxic and noncorrosive materials. Ensure that the tank outlet taps or draw-off pipes are at least 10 centimetres (4 inches) above the tank floor to avoid pulling out any sludge that may have accumulated in the water supply. In addition, catchments must be kept free of accumulated dirt, moss, lichens, and other detritus. Branches of trees that overhang these catchment surfaces must be pruned. Routine cleaning of gutters, tank inlets, and screens, as well as an annual inspection of the tank, are required for proper operation. Ideal water quality monitoring would involve periodic water testing. The five primary components of a rainwater harvesting system are (1) conveyance, (2) storage, (3) overflow, (4) outlet, and (5) distribution. Additionally, a first-flush diverter may be placed to enhance water quality.

The number of buildings necessitates the construction of four wet systems for the rainwater collecting of the social housing project. Each rainwater-harvesting system will include preferably identified and prepared waterproof catchment surfaces for collecting rainwater (e.g., roof or impervious ground surfaces), a delivery system for transporting rainwater from the catchment to appropriate storage tanks (e.g., gutters or surface drains), and the storage tank.

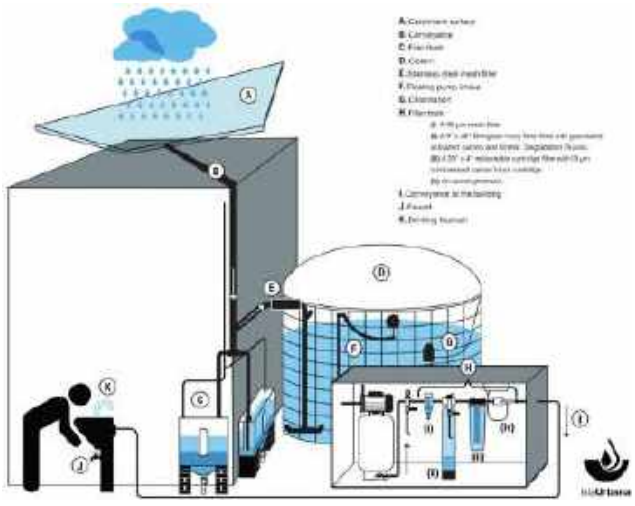

Figure 13. RWH system sketch

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The planned rainwater collection system will consist of the roof, gutters, downspouts, a collecting tank, primary screening and first flush diverters, and a water treatment unit.

Plastic or concrete storage tanks will be utilised to store rainwater. The roof rainfall will be collected in above-ground tanks, where it will be treated to meet drinking water requirements. Additionally, water collected in underground tanks will be purified for use in toilets and the landscaping of nearby areas.

Using the equation, the amount of water that can be harvested is determined:

V = Sum (R*A*RC/1000)

where V is the annual volume of rainwater that might be collected (m3), R is the average annual precipitation (mm/y), A is the total area utilised for RWH (m), RC is the run-off coefficient (dimensionless), and 1000 is the conversion factor from millimetres to metres.

The runoff coefficient of a catchment is the ratio of the amount of water that runs off a surface to the amount of precipitation that falls on the surface (Table 2). The runoff coefficient accounts for water losses due to surface material texture, evaporation, losses happening in gutters, downspouts, and storage tanks, surface cleaning, and collection process inefficiencies. In addition, wind speed and direction affect water loss from roof surfaces.

Table 2. The volume of harvested rainfall and potential water saving in the vocational training centre, Astara.

Harvesting area	Area (m^2)	Volume (m^3)
Buildings' rooftop	800 – 1000	400
Open areas	800 – 1200	400
Total	2000	800

(5) Cost effectiveness – budgets and beneficiaries

5a. Budget

Item	Location	Allocated budget (USD)		Notes
Executing Entity – personnel and office cost				Sub-Total: 200,000 USD
Rainwater Harvesting System and equipment for four locations (including catchments, coarse mesh, gutters, conduits, filters, storage, etc.)	Astara	Equipment	145,000 USD	Sub-Total: 495,000 USD
		Maintenance	50,000 USD	
		Construction	200,000 USD	
		Labour cost	60,000 USD	
		Contractual Services	20,000 USD	
		Field missions for technical expertise and monitoring	20,000 USD	
Feasibility study on rainwater harvesting covering each of the two sites	Astara	Contractual Services	30,000 USD	Sub-Total: 40,000 USD
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	5,000 USD	
Public education on water scarcity, use and management	Astara	Contractual Services – audio-visual product	30,000 USD	Sub-Total: 50.000 USD
		Venue and refreshments	15,000 USD	
		Field missions for technical expertise and monitoring	5,000 USD	
		Editing, layout and design of publication material	10,000 USD	
Capacity development on urban adaptation and water	Astara	Contractual Services	20,000 USD	Sub-Total: 45,000 USD
		Venue and refreshments	10,000 USD	
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	5,000 USD	

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		Editing, layout and design of publication material	5,000 USD	
Development of a costed plan for adaptation solutions and integrated water management including gender-disaggregated water use	Astara	Contractual Services	55,000 USD	Sub-Total: 80,000 USD
		Meeting venue and catering	5,000 USD	
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	10,000 USD	
		Editing and layout design	5,000 USD	
Climate adaptation expertise on urban adaptation measures	Astara	Contractual Services	10,000 USD	Sub-Total: 10,000 USD
Community Consultations	Astara	Venue and refreshments	15,000 USD	Sub-Total: 25,000 USD
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	2,000 USD	
		Editing and layout design	3,000 USD	
Plans for maintenance, upkeep and future funding for the project interventions after the end of the project.	Astara	Contractual Services	45,000 USD	Sub-Total: 60,000 USD
		Field missions for technical expertise and monitoring	10,000 USD	
		Translation/ Interpretation	5,000 USD	
		TOTAL		**1,005,000.00 USD**

5b. Beneficiaries

The direct beneficiaries of the project are those living in the housing project and the indirect beneficiaries are everyone in the city of Astara. Below are the numbers based on official statistics. Additional categories of key beneficiaries for which there is no data include migrants, single-parent households, seasonal and informal workers, fishermen and women, and agricultural workers.

Astara	Total (direct)	Total (indirect)	Female (%)	Male (%)
Total (District)	1,860	51,579	49	51
Households number	600	15,630	-	-
Woman headed household	93	2,541	100	-
Elderly (65 +)	25	2,212	55	45
Youth and children (under the age of 25)	650	32,325	50	50
Migrants	75	2,119	30	70
Persons with disabilities	30	1,254	40	60

(6) Relevant Stakeholders

The project idea has been developed in consultation with relevant national and local stakeholders, including Gilan General Directorate of Road and Urban Development Authority and the Meteorological Organization. The project idea was also discussed by the National Steering Committee that includes 20 government entities and Gilan Province sub-committee that includes 10 government entities, 5 NGOs, and 5 research institutes.

By taking part in the training sessions provided by the technical and professional training centers, the residents of the housing complex will develop the skills required to assist with the installation, operation, and maintenance of the rain harvesting system.

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BANDAR-E-KIASHAHR (Islamic Republic of Iran) I Output 3.5

(1) Hazard to be addressed by intervention and other relevant circumstances

Drought, heat, and declining sea level are three elements that, together with human factors, are impairing the Bandar-e-Kiashahr area. The drying process has turned the beach's sand into a source of dust, which combines with the heat waves that are currently affecting the local people. Consultations with government institutions and communities in the Bandar-e-Kiashahr city revealed concerns about how these impacts are affecting the local communities and that its effects on the local environment are having major ramifications for the local people. Drought and heat waves, for example, have jeopardized Bandar Kiashahr's tourism prospects and the presence of beach sand dust has aggravated the problem.

Figure 14. Wooden Bridge on the Bandar-e-Kiashahr Lagoon

Deliverables	Delivery of Greenery and Tree Planting
Beneficiaries	14,024
Budget	1.005.000,00 USD
Location	Bandar-e-Kiashahr, Islamic Republic of Iran

(2) Summary of concrete adaptation measure

NGOs, with the assistance of locals, will be the primary force in planting trees, taking into account the principles of tree planting in fir trees and preparing the soil for tree planting. The initial participants will be seasonal workers, female heads of households, migrants, and other vulnerable populations. This group will be responsible for tree maintenance and treatment in addition to tree planting. In order to educate individuals, skill-building and capacity-building programs will be conducted in this context. The tree planting will help to mitigate impacts of heat and drought by reducing the incidence of dust and preventing coastal erosion. This will have co-benefits for improved air quality and helping to restore tourism prospects in the area. This work will significantly enhance the social capital and sense of community among city residents. In addition, there will be a study on how nature-based solutions to build resilience of the lagoon, protect fishing stocks and restore tourism prospects can be scaled up.

The investment will also support the creation of **climate-resilient livelihoods with a special focus on non-farm livelihoods** in Bandar-e-Kiashahr. The climate-resilient livelihood options (e.g., food processing, hospitality, IT, transportation, etc.) will be identified in the context of a planned economic development for the region. **Capacities** of officials will also be developed on nature-based solutions and climate-resilient livelihoods. These aforementioned activities will be supplemented by **community-level consultation**. To address the limited knowledge of the role of nature-based solutions to build resilience in the lagoon, the project will commission a **scoping stud**y. **Learning exchanges** will be organised with other cities in the Republic of Azerbaijan and the Islamic Republic of Iran. The investment will be strengthened though **ESIA** monitoring and gender expertise.

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Figure 15. Example of Fir tree planting in beach

(3) Location of investments

The selected locations for Tree planting in this investment are on the shoreline indicated in yellow on the map on Figure 16. The tree planting will be undertaken on public land in an area of 50 hectares.

Figure 16. Location of the investment

(4) Technical design

Fir trees and shrubs grow best in full sun or part shade and moist, fertile soil. Sandy loam soil is best. Fir will occasionally adapt to poor, compacted soils and planting places that are prone to heat and drought, but it often languishes in such conditions and grows exceptionally slowly. The best time to plant a fir tree is in late fall or winter, when it is dormant. Before planting, it is necessary to completely saturate both the root ball and the soil in the hole. To assist a fir tree establish itself in the garden, irrigation should consist of a soaker hose used for at least one hour every week.

The fir tree is native to the northern provinces of the Islamic Republic of Iran.

Figure 17. Fir tree planting

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(5) Cost effectiveness – budgets and beneficiaries

5a. Budget

Item	Location	Allocated budget (USD)		Notes
Executing Entity – personnel and office cost				Sub-Total: 200,000 USD
Preparing the land for planting – plowing, sand stabilization, and irrigation	Bandar-e-Kiashahr	Equipment (e.g., plants, engineering, reconstruction, etc.)	60,000 USD	Sub-Total: 200,000 USD
		Maintenance forecast	20,000 USD	
		sand stabilization	30,000 USD	
		Labour cost	50,000 USD	
		Field missions for technical expertise and monitoring	10,000 USD	
		Contractual Services	30,000 USD	
Planting and maintenance - including Seedlings, fertilizers and growing catalysts	Bandar-e-Kiashahr	Maintenance forecast	60,000 USD	Sub-Total: 250,000 USD
		Planting and material	100,000 USD	
		Labour cost	50,000 USD	
		Field missions for technical expertise and monitoring	20,000 USD	
		Contractual Services	30,000 USD	
Feasibility study with concrete design plans, remediation needs, and native and drought resistant plant options[13]	Bandar-e-Kiashahr	Contractual Services	55,000 USD	Sub-Total: 75,000 USD
		Field missions for technical expertise and monitoring	10,000 USD	
		Translation/ Interpretation	10,000 USD	
Capacity development on urban climate adaptation, nature-based solutions, and finance		Contractual Services	55,000 USD	Sub-Total: 75,000 USD
		Venue and refreshments	10,000 USD	
		Translation/ Interpretation	10,000 USD	
Community consultations	Bandar-e-Kiashahr	Contractual Services	15,000 USD	Sub-Total: 40,000 USD
		Venue and refreshments	15,000 USD	
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	5,000 USD	
Draft investment plan to develop the remainder of the hybrid, green corridor, including considering blended finance	Bandar-e-Kiashahr	Contractual Services	40,000 USD	Sub-Total: 65,000 USD
		Workshop venue and catering (2 x 2 days each)	5,000 USD	
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	5,000 USD	
		Editing and layout design	10,000 USD	
		Contractual Services	30,000 USD	Sub-Total:

[13] including climate adaptation expertise on urban adaptation measures and blended finance.

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Recommendations for the design of gender-sensitive green based on a study	Bandar-e-Kiashahr	Field missions for technical expertise and monitoring	5,000 USD	40,000 USD
		Translation/ Interpretation	2,000 USD	
		Editing and layout design	3,000 USD	
Plans for maintenance, upkeep and future funding for the project interventions after the end of the project.	Bandar-e-Kiashahr	Contractual Services	45,000 USD	Sub-Total: 60,000 USD
		Field missions for technical expertise and monitoring	10,000 USD	
		Translation/ Interpretation	5,000 USD	
		TOTAL		**1,005,000 USD**

5b. Beneficiaries

The direct beneficiaries are the residents of Bandar-e-Kiashahr urban area and the indirect beneficiaries are all people in the urban and rural area of Bandar-e-Kiashahr. Below are the numbers based on official statistics. Additional categories of key beneficiaries for which there is no data include migrants, single-parent households, seasonal and informal workers, fishermen and women, and agricultural workers.

Bandar-e-Kiashahr	Total (direct)	Total (indirect)	Female (%)	Male (%)
Total (District)	14,024	34,954	50	50
Households number	4,674	11,1167	-	-
Woman headed household	1,010	2,752	100	-
Elderly (65 +)	950	2,120	53	47
Youth and children (under the age of 25)	6,500	18,254	49	51
Migrants	750	3,452	42	58
Persons with disabilities	320	1,423	52	48

(6) Relevant Stakeholders

The project idea has been developed in consultation with relevant national and local stakeholders, including Gilan General Directorate of Road and Urban Development Authority and the Meteorological Organization. The project idea was also discussed by the National Steering Committee that includes 20 government entities and Gilan Province sub-committee that includes 10 government entities, 5 NGOs, and 5 research institutes.

With the coordination of the governorate, Kiashahr Municipality will act through the cooperation of active NGOs in mobilizing vulnerable groups to participate in the project. Vulnerable groups have been identified through the Prevention deputy of the Gilan Welfare Organization. Vulnerable groups will be involved in the process of planting trees and maintaining them.

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MAHMOUDABAD (Islamic Republic of Iran) I Output 3.6

(1) Hazard to be addressed by intervention and other relevant circumstances

Droughts and flooding have been impacting Mahmoudabad district in recent years. Water scarcity has also been a problem in Mahmoudabad in recent years. Because of climate change, the region's rainfall pattern altered, so that despite a reduction in yearly average rainfall, heavy rain on some days of the year causes waterlogging and urban flooding. Waterlogging during the rainy season was caused by a lack of an adequate surface water collection system. Besides, the lack of proper management of municipal wastewater increases the impacts of floods, negatively impacts water supply and adversely affects the human health and ecosystem health in Mahmudabad.

Figure 18. Stormwater runoff

Deliverables	Delivery of stormwater drainage system (SDS)
Direct Beneficiaries	7,800
Budget	1.005.000,00 USD
Location	Mahmoudabad district, Islamic Republic of Iran

Consultations with government institutions and communities in Mahmoudabad city have revealed that climate change is affecting local communities and that its effects on the local environment are having serious consequences for local people. Rainfall-caused stormwater floods, for example, causes economic loss and damage.

(2) Summary of concrete adaptation measure

The term ‘stormwater’ is used to describe the part of rainfall that directly runs off the land surface. The term ‘stormwater’ also includes any contaminants (pollutants) collected by the water during its travels. Drainage, specifically stormwater drainage, is the natural or artificial means of intercepting and transporting stormwater run-off. Drains receive water from street gutters on most motorways, freeways and other busy roads, as well as from towns in areas with heavy rainfall that leads to flooding, and from regular storms of coastal towns. Even gutters from houses and buildings can connect to the storm drain. Many storm drainage systems are gravity sewers that drain untreated storm water into rivers or streams — so it is unacceptable to pour hazardous substances into the drains.

Drainage problems are usually very different from flooding problems. Property flooding can result from a number of sources, including stormwater, but it is most commonly associated with the effects of creek or river flooding. Unlike river flooding, stormwater flooding normally results in just a thin layer of water

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spilling over floors, but the damage to floor coverings can be just costly to repair. Unlike creek or river flooding, most drainage problems can be solved through appropriate building and drainage design. However, not even the best drainage system can prevent some properties from experiencing the effects of creek or river flooding.

A feasibility study will be undertaken to determine concrete design plans, including the exploration of innovative solutions such as nature-based solutions for water filtration. **Capacities** of officials will also be developed on SDS and flood management. These aforementioned activities will be supplemented by **community-level consultation**. A scoping study for expansion of SDS, including innovative solutions such as nature-based solutions for water filtration, and an integrated flood management plan will be undertaken. **Learning exchanges** will be organised with other cities in the Republic of Azerbaijan and the Islamic Republic of Iran. The investment will be strengthened though **ESIA** monitoring and gender expertise.

(3) Location of investments

The selected locations for SDS in this investment are all in area classified as public land, and thus do not impact private land.

Figure 19. Location of the investment.

Figure 20. Location of the investment

(4) Technical designs

There are two main types of stormwaters drain (highway drain or road gully in the UK) inlets: side inlets and grated inlets. Side inlets are located adjacent to the curb and rely on the ability of the opening under the back stone or lintel to capture flow. They are usually depressed at the invert of the channel to improve capture capacity. Pipes can come in many different cross-sectional shapes (rectangular, square, bread-loaf-shaped, oval, inverted pear-shaped, egg shaped, and most commonly, circular). Drainage systems may have many different features including waterfalls, stairways, balconies and pits for catching rubbish, sometimes called Gross Pollutant Traps (GPTs). Pipes made of different materials can also be used, such as brick, concrete, high-density polyethylene or galvanized steel. Fiber

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reinforced plastic is being used more commonly for drain pipes and fittings. Most drains have a single large exit at their point of discharge (often covered by a grating) into a canal, river, lake, reservoir, sea or ocean. Other than catch basins, typically there are no treatment facilities in the piping system. Storm drains may be interconnected using slotted pipe, to make a larger dry well system. Storm drains may discharge into man-made excavations known as recharge basins or retention ponds. Runoff into storm sewers can be minimized by including sustainable urban drainage systems or low impact development or green infrastructure practices into municipal plans. To reduce stormwater from rooftops, flows from eaves troughs (rain gutters and downspouts) may be infiltrated into adjacent soil, rather than discharged into the storm sewer system. Storm water runoff from paved surfaces can be directed to unlined ditches (sometimes called swales or bioswales) before flowing into the storm sewers, again to allow the runoff to soak into the ground (Nature-based solutions). Permeable paving materials can be used in building sidewalks, driveways and in some cases, parking lots, to infiltrate a portion of the stormwater volume.

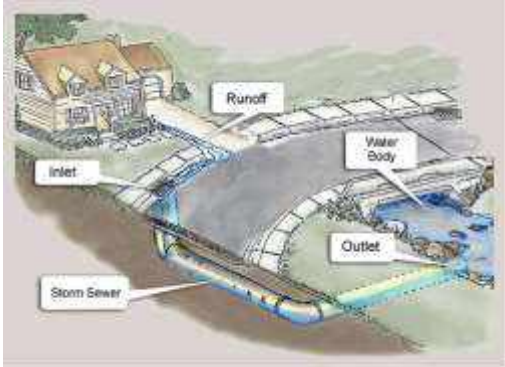

Figure 21: Scheme of Stormwater Drainage System

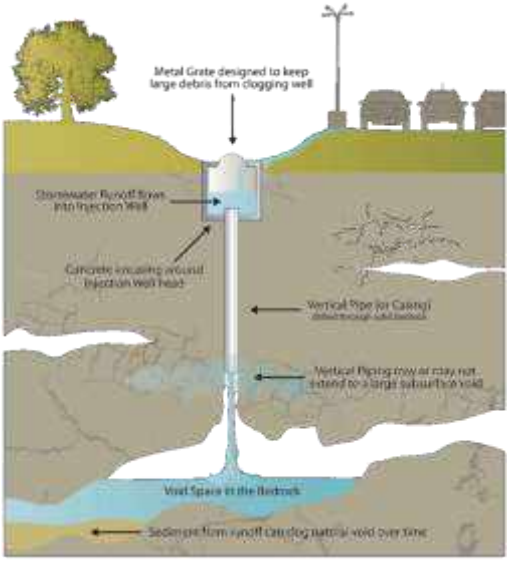

Figure 2122. Component for a drainage system

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Figure 2223. Component for a drainage system

Figure 2324. Component of a drainage system

(5) Cost effectiveness – budgets and beneficiaries

5a. Budget

Item	Location	Allocated budget (USD)		Notes
Executing Entity – personnel and office cost				Sub-Total: 200,000 USD
Land preparation, excavation, planting, well construction, etc.	Mahmoudabad	Equipment	100,000 USD	Sub-Total: 150,000 USD
		Construction	20,000 USD	
		Labour cost	24,000 USD	
		Field missions for technical expertise and monitoring	6,000 USD	
Feasibility study with concrete design plans, including the exploration of innovative solutions such as nature-based solutions for water filtration	Mahmoudabad	Contractual Services	30,000 USD	Sub-Total: 50,000 USD
		Field missions for technical expertise and monitoring	10,000 USD	
		Translation/ Interpretation	10,000 USD	
Stormwater Drainage System equipment (i.e. PVC pipes, drainage grates, manhole covers, septic, filters, storage, etc.)	Mahmoudabad	Equipment	300,000 USD	Sub-Total: 350,000 USD
		Contractual Services	30,000 USD	
		Field missions for technical expertise and monitoring	10,000 USD	

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		Labour cost	10,000 USD	
Capacity development on EWS	Mahmoudabad	Contractual Services	21,000 USD	Sub-Total: 40,000 USD
		Venue and refreshments	6,000 USD	
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	8,000 USD	
Plans for maintenance, upkeep and future funding for the project interventions after the end of the project.	Mahmoudabad	Contractual Services	45,000 USD	Sub-Total: 60,000 USD
		Field missions for technical expertise and monitoring	10,000 USD	
		Translation/ Interpretation	5,000 USD	
Community consultations	Mahmoudabad	Meeting venue and catering	30,000 USD	Sub-Total: 45,000 USD
		Transportation and DSA	10,000 USD	
		Editing and layout design	5,000 USD	
Scoping study for expansion of Stormwater Drainage System, including innovative solutions such as nature-based solutions for water filtration, and an integrated flood management plan	Mahmoudabad	Contractual Services	40,000 USD	Sub-Total: 50,000 USD
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	5,000 USD	
Awareness raising campaign	Mahmoudabad	Contractual Services – audio-visual product	30,000 USD	Sub-Total: 60,000 USD
		Venue and refreshments	10,000 USD	
		Field missions for technical expertise and monitoring	10,000 USD	
		Editing, layout and design of publication material	10,000 USD	
Climate adaptation expertise on urban adaptation measures	Mahmoudabad	Contractual Services	40,000 USD	Sub-Total: 50,000 USD
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	5,000 USD	
		TOTAL	**1,005,000,00 USD**	

5b. Beneficiaries

The direct beneficiaries are the inhabitants of the two neighbourhoods in the immediate vicinity of the investment areas while the indirect beneficiaries are all of the residents of Mahmoudabad. Below are the numbers based on official statistics. Additional categories of key beneficiaries for which there is no data include migrants, single-parent households, seasonal and informal workers, fishermen and women, and agricultural workers.

Mahoudabad	Total (direct)	Total (indirect)	Female (%)	Male (%)
Total (District)	7,800	31,844	52	48
Households number	2,560	12,354	-	-
Woman headed household	390	2,400	100	-
Elderly (65 +)	150	2,890	57	43

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Youth and children (under the age of 25)	4,500	12,125	54	46
Migrants	350	2,650	45	55
Persons with disabilities	75	630	35	65

(6) Relevant Stakeholders

The project idea has been developed in consultation with relevant national and local stakeholders, including Ministry of Road and Urban Development and the Department of Environment. The project idea was also discussed by the National Steering Committee that includes 20 government entities. In order to participate in the project's execution, particularly in the application of nature-based solutions and system maintenance, vulnerable individuals and groups recognized by the welfare organization will attend training sessions. Residents and business owners in the project site will be consulted before and during the implementation of the investment.

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BANDAR-E-TORKAMAN (Islamic Republic of Iran) I Output 3.7

(1) Hazard to be addressed by intervention and other relevant circumstances

Bandar-e-Torkaman is affected by flooding and droughts. The city is in the low and flat plain of Gorgan and susceptible to flooding caused by climate change as a result of an increase in torrential rainfall in recent years. Until a few years ago, the problem of drought in the northern cities of the Islamic Republic of Iran seemed strange, but Golestan province (the easternmost coastal province of the Caspian Sea) is one of the top 4 provinces in the country in terms of drought. This has resulted in the loss of important environmental and economic services, including farming, livestock raising and fishing.

Figure 2425. The shoreline of Bandar-e-Torkaman

Deliverables	Delivery of early warning system
Direct Beneficiaries	53,790
Budget	1.005.000,00 USD
Location	Bandar-e-Torkaman, Islamic Republic of Iran

Consultations with government entities and communities in the Bandar-e-Torkaman has identified that the local communities are being impacted by climate change and its effects on the local environment are leading to serious consequences for local people. For example, flooding results in loss of property and decreasing agriculture productivity. Floods produced by severe rainfall in Golestan province and Bandar-e- Torkaman in 2019 resulted in significant economic losses and human deaths.

(2) Summary of concrete adaptation measure

Early warning system (EWS) is a climate change adaptation tool that uses integrated communication networks to assist communities in preparing for dangerous climate-related events. A successful EWS saves lives and employment, as well as land and infrastructure, and contributes to long-term sustainability. Early warning systems aid public authorities and administrators in their planning, saving money and preserving economies in the long term. This investment will create an EWS for droughts and flooding in the district of Bandar-e-Torkaman. Two monitoring stations will be installed in the Bandar-e-Torkaman district. Each monitoring station will have a water level sensor. The monitoring devices will be connected to the Meteorological Organization's network and will complement meteorological monitoring capabilities in the Bandar-e-Torkaman district. An information dashboard will be placed at the Bandar-e-Torkaman District Executive Authority to guarantee that district-level decisionmakers have access to real-time information. The initiative will also assist the Disaster Management Organization in improving communication protocols for public early warnings, with a special emphasis on vulnerable groups such as women, the elderly, single parents, migrants and

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people with disabilities. Officials' monitoring and early warning system capabilities will also be enhanced.

The investment will also support the creation of **climate-resilient livelihoods with a special focus on non-farm livelihoods** in Bandar-e-Torkaman. The climate-resilient livelihood options (e.g., food processing, hospitality, IT, transportation, etc.) will be identified in the context of an economic development plans and stakeholder preferences in the region. **Capacities** of officials will also be developed on early warning systems and climate-resilient livelihoods. These aforementioned activities will be supplemented by **community-level consultation** and **awareness-raising campaigns**. **Learning exchanges** will be organised with other cities in the Republic of Azerbaijan and the Islamic Republic of Iran. The investment will be strengthened though **ESIA** and gender planning and monitoring.

(3) Location of investments

The selected site offers this opportunity for synergy because it is close to the Bandar-e-Torkaman Marine Meteorology Center. On the other hand, it has the potential for good alarming residents and fishermen owing to its proximity to the sea and geographic heart of the city. Accordingly, remote measurement equipment needs to be installed along the upstream rivers like Atrak.The selected locations for EWS in this investment are all in area classified as public land, and thus do not impact private land.

Figure 2526. The location of the investment in Bandar-e-Torkaman

Figure 2627. Meteorological Station in Bandar-e-Torkaman.

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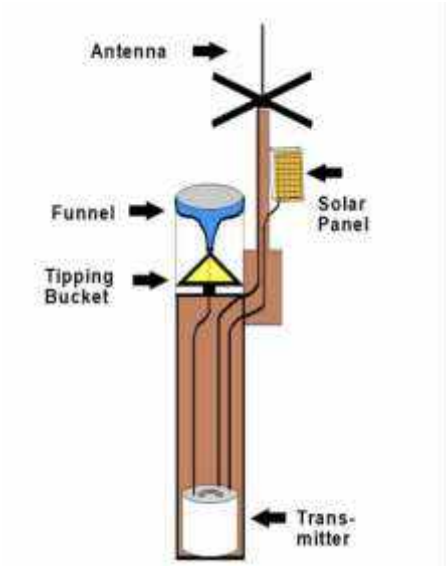
(4) Technical design

The basic benefit of a local early warning program for flood and drought is an increased lead time for watches and warnings at locations subject to flood risk. The information can be used to predict whether a flood is about to occur, when it will arrive, and how severe it will be. Organizations and individuals are given notice by the system so they can protect themselves and their property. The basic parts of a flood warning program are:



- The EWS, including equipment, people, and procedures for recognizing an impending drought, flood and disseminating warnings;
- A prepared plan of action to be taken before and during the flood and drought; and
- Arrangements for updating and maintenance of equipment and plans.

Figure 2728. Radio Reporting Rain Gage.

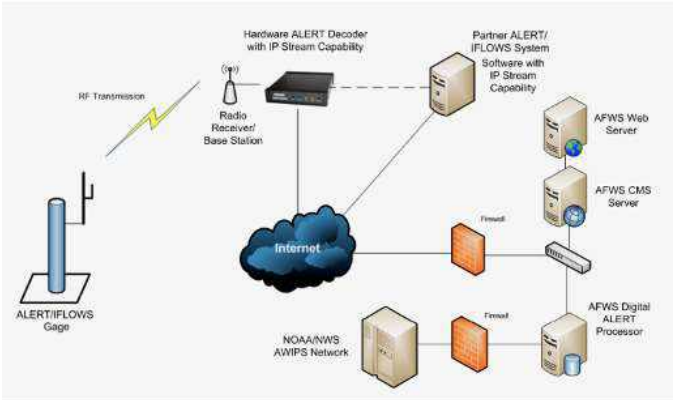


Figure 2829. Raw data diagram.

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(5) Cost effectiveness – budgets and beneficiaries

5a. Budget

Item	Location	Allocated budget (USD)		Notes
Executing Entity – personnel and office cost				Sub-Total: 310,000 USD
EWS equipment (e.g., 2 water level sensors, 2 wind sensors, an information dashboard, etc.)	Bandar-e-Torkaman	Equipment	200,000 USD	Sub-Total: 250,000 USD
		Construction	20,000 USD	
		Labour cost	24,000 USD	
		Field missions for technical expertise and monitoring	6,000 USD	
EWS communication	Bandar-e-Torkaman	Equipment	50,000 USD	Sub-Total: 150,000 USD
		Contractual Services	30,000 USD	
		Audio visual product	30,000 USD	
		Field missions for technical expertise and monitoring	10,000 USD	
		Translation/ Interpretation	15,000 USD	
		Edit/ Layout/ Design/ Online Publication	15,000 USD	
Capacity development on EWS	Bandar-e-Torkaman	Contractual Services	21,000 USD	Sub-Total: 40,000 USD
		Venue and refreshments	6,000 USD	
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	8,000 USD	
Plans for maintenance, upkeep and future funding for the project interventions after the end of the project.	Bandar-e-Torkaman	Contractual Services	45,000 USD	60,000 USD
		Field missions for technical expertise and monitoring	10,000 USD	
		Translation/ Interpretation	5,000 USD	
Community consultations	Bandar-e-Torkaman	Meeting venue and catering	30,000 USD	Sub-Total: 45,000 USD
		Transportation and DSA	10,000 USD	
		Editing and layout design	5,000 USD	
Scoping study on the role of nature-based solutions in managing salinization	Bandar-e-Torkaman	Contractual Services	40,000 USD	Sub-Total: 50,000 USD
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	5,000 USD	
Awareness raising campaign	Bandar-e-Torkaman	Contractual Services – audio-visual product	30,000 USD	Sub-Total: 60,000 USD
		Venue and refreshments	10,000 USD	
		Field missions for technical expertise and monitoring	10,000 USD	
		Editing, layout and design of publication material	10,000 USD	
Climate adaptation expertise on urban adaptation measures	Bandar-e-Torkaman	Contractual Services	40,000 USD	Sub-Total: 50,000 USD
		Field missions for technical expertise and monitoring	5,000 USD	
		Translation/ Interpretation	5,000 USD	
		TOTAL	**1,005,000,00 USD**	

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5b. Detailed Budget - Equipment

#	Products	Technical Specifications	Quantity	Unit price (USD)	Total price (USD)
1	Weather Station (AWS)	Air temperature, relative humidity, air pressure, wind direction, wind speed and solar radiation. One external rain sensor is connectable.	1	12,868 USD	12,868 USD
2	Marine Hydrometeorological Station	Sea Level, Conductivity and Salinity, air temperature, relative humidity, air pressure, wind direction, wind speed and solar radiation. One external rain sensor is connectable.	1	23,228 USD	23,228 USD
3	Hydrology Station (HWS)	Water Discharge, Water Level, Water velocity, Water Quality – Conductivity, Temperature, pH, Turbidity	2	38,472 USD	76,944 USD
4	ADCP (Acoustic Doppler Current Profiler)	River Surveyor M9.Portable ninebeam 3 MHz/1.0 MHz/0.5 MHz acoustic Doppler profiler/discharge measurement system intended for use from moving boats and other floating platforms in medium depth channels. Features bottom tracking, internal discharge calculation. River Surveyor Live! Windows software for real – time display of current profiles, water depth and computed discharge measurements, DGPS/RTK GPS interface, and integration of CastAway-CTD data for sound speed corrections. System also includes a power supply and plastic shipping case.	1	49,253 USD	49,253 USD
5	Agro-meteorological station		3	8,000 USD	24,000 USD
6	Software		1	6,440 USD	6,440 USD
7	Server		1	8,360 USD	8,360 USD
8	Miscellaneous		lumpsum	48,907 USD	48,907 USD

5c. Beneficiaries

The direct beneficiaries are residents of Bandar-e-Torkaman and the indirect beneficiaries are the total urban and rural population. Below are the numbers based on official statistics. Additional categories of key beneficiaries for which there is no data include migrants, single-parent households, seasonal and informal workers, fishermen and women, and agricultural workers.

Bandar-e-Torkaman	Total (direct)	Total (indirect)	Female (%)	Male (%)
Total (District)	53,790	79,978	48	52
Households number	14,500	22,216	-	-
Woman headed household	2,500	3,652	100	-
Elderly (65 +)	2,200	7,320	60	40
Youth and children (under the age of 25)	29,300	37,542	45	55
Migrants	2,100	5,432	40	60
Persons with disabilities	1,200	2,622	54	46

(6) Relevant Stakeholders

The project idea has been developed in consultation with relevant national stakeholders, including the Department of Environment, Ministry of Road and Urban Development and Bandar-e-Torkaman District Executive Authority. The project idea was also discussed by the National Steering Committee that includes 20 government entities. Given the importance of the last-mile communication of early warning,

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special attention will be paid to ensure that the early warning is communicated to vulnerable groups such as women, the elderly, single parents, migrants and persons with disability.

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ANNEX 6: ENVIRONMENTAL AND SOCIAL RISK SCREENING, IMPACT ASSESSMENT AND ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The purpose of this Annex is to demonstrate the project's compliance with the Environmental and Social and Gender Policies of the Adaptation Fund. It provides an analysis of the potential environmental and social risks of the project's physical activities and highlights opportunities, concluding in an Environmental and Social and Gender Policy Compliance Plan. The content of this plan will be made available to the PAC before the project commences, and it will be used as a basis to brief beneficiary communities before the project commences. Its content will be translated into Azerbaijani and Farsi prior to the start of the project, and its key findings and messages will be simplified to enable beneficiary communities to understand them.

Compliance with environmental and social safeguards

Environmental and social safeguards are essential tools to prevent and mitigate the potential for undue and unintended harm that could arise from project activities. In line with the Adaptation Fund's ESP and GP and UN-Habitat's Environmental and Social Safeguards System (ESSS), UN-Habitat and its partners are required to conduct risk screenings, scoping and impact assessments of all activities that have even a negligible risk of causing unintended harm.

To ensure compliance with the Environmental and Social Policy of the Adaptation Fund, all project activities are screened in this Annex against the 15 environmental and social principles, as defined in the Environmental and Social Policy of the Adaptation Fund. Where risks have been identified, this annex analyses the potential for impact and describes the measures that have been built into the project to avoid or mitigate risks and their impacts. Throughout the project, investments have been designed. This Annex supersedes any previous environmental and social safeguards related annex that has been submitted in previous versions of this proposal.

The analysis presented in this Annex is based on data from the census, numerous government sources, other secondary sources and where this is not available, primary data gathered by the project formulation team. All investments identified in the project have been developed in regular consultation with local and national government and target beneficiary communities. The proposed measures to avoid, mitigate and manage environmental and social safeguards risks have also been discussed extensively with local and national government stakeholders and communities. Please note that all technical information relating to all technical designs and related information are presented in Annex 5.

Screening and Categorization

The table below, screens the project's activities against the 15 Adaptation Fund Environmental and Social Safeguard principles (hereafter, the 15 principles) and provides a summary of why the principle has been triggered or not. Further details and analysis are provided throughout this annex. Further detailed project design sheets are provided in Annex 5. Due to space constraints in the proposal, these are summaries, and full versions can be provided upon request. Where appropriate, this annex also contains information gathered through the community consultation process, which is described further in Part II, Section H.

It should be noted at this point that only activities under Component 3 involve physical works (construction, installation of facilities, maintenance) and so on. All other activities in the other outputs proposed by the project are 'soft' activities that involve training, reports and publications. As such, the only the investments under Component 3 are considered category B risk and require further screening. The remaining activities under Components 1, 2 and 4 are considered Category C and, as no risks arise, impact assessments are not required. In the analysis below, there are occasional references to mitigation measures that are to be factored into soft activities where these support a hard activity to reduce environmental and social risks – i.e., where training will emphasize gender equality and women's empowerment. This notwithstanding, it should be assumed that soft activities have been considered to have no risk or such minimal risk that mitigation measures are not required and, for reasons of space, are not discussed further here.

ESS consultations have been conducted through screening, examination, and review with feasibility of implementing identified activities. The designed activities especially for, infrastructure investments, were assessed to identify the potential risk and impact. After identification, mitigation measures were set up, and risks for social and environmental impacts were analyzed. Based on those measures, monitoring plans were arranged, and probability of risk was determined. With mitigation measures, monitoring plans, and probability of risk, mitigation action plans were developed below. The ESMP will be reviewed continuously through the lifespan of the proposed project. The ESMP identifies potential risks to the environment and social matters from the proposed project and outlines strategies for managing those risks and minimizing undesirable environmental and social impacts. The ESMP also provides a grievance mechanism, outlined below, for community members impacted by the proposed project.

An ESMP is a management tool to minimize any negative social or environmental impacts of the project and aim to increase environmental and social benefits.

The environmental and social objectives of the proposed project are to:

- encourage good management practices through planning, commitment and continuous improvement of environmental practices;
- minimize or prevent the pollution of land, air and water pollution;
- protect native flora and fauna;
- comply with all applicable laws, regulations and standards for the protection of the environment, adopt the best practicable means available to prevent or minimize environmental impact;
- describe all monitoring procedures required to identify impacts on the environment; and
- provide an overview of the obligations of the relevant government ministries and UN-Habitat staff and consultants with regard to environmental and social obligations.

The ESMP will be updated periodically by the PMU in consultation with UN-Habitat and Executing Entities, and the relevant government ministries to incorporate changes in the detailed inception phase of the proposed project. The ESMP will continue through the lifespan of the proposed project to comply with the AF environmental and social policy and all other relevant laws and policies.

The tables presented below were prepared primarily by using secondary data, reports and analysis of this information by the proposal development team to reach conclusions about what the likely impacts of the identified risks would be. Where studies, data and secondary information is used in the below analysis, it is referenced accordingly. In some cases, and where available, the assessment uses unpublished information obtained from government departments. This approach was taken because some government agencies/departments in the Republic of Azerbaijan and the Islamic Republic of Iran obtain data that they don't publish, but shared with the team in the consultations that led to the formulation of this proposal. As highlighted in Part II, Section H, consultations with communities also took place, and these were important in the project's design and focus. The communities were also consulted as part of the Environmental and Social Safeguards approach, and their views are reflected – especially under the Access and Equity, Marginalized and Vulnerable Groups and Gender Equality and Women's Empowerment Principles. However, the consultations took a more 'confirmatory' approach in the formulation of the ESIA due to the requirement that the ESIA be evidence rather than perception based. Where the ESIA relies on community consultations to arrive at findings or make assumptions about likely impacts, this is stated.

General measures to be put in place to reduce environmental and social risks

The following general actions will be put in place to ensure compliance with the Environmental and Social Policy.

- All memorandums of understand, agreements of cooperation with executing entities will include reference to and compliance with the 15 principles of the AF ESP and the Gender Policy, and UN-Habitat's Environmental and Social Safeguards System.
- That UN-Habitat staff specialized in human rights issues will check for compliance with the ESP during the project's implementation. The gender focal point will also check compliance against principle 5 and the Gender Policy during implementation. The project will need to pass the UN-Habitat PRC with agency requirements for human rights, gender, youth and climate change.
- Continued coordination with focal points within the national and local governments, responsible for compliance with national and local standards will take place throughout the project.
- Capacity building and awareness raising: The project manager and his or her team will provide capacity building and awareness raising on compliance with the environmental and social and gender policies and UN-Habitat's ESSS to executing entities and target communities so that they are aware of potential risks and are better placed to avoid or mitigate them, or recognized the potential for them and raise them through the appropriate channels, including the grievance mechanism (described below). This capacity building and awareness raising will be done in the inception phase of the project, prior to the commencement of construction.

Grievance Mechanism

- The grievance mechanism will apply to all the project's target areas and will be open to beneficiaries and non-beneficiaries alike. It will allow them accessible, transparent, fair and effective means to communicate with the project management (and Project Steering Committee) if there are any concerns regarding the project design and implementation. All employees, executing entities and contractors and people in the target areas will be made aware of the grievance mechanism to lodge any complaint, criticism, concern, or query regarding the project's implementation.
- The mechanism considers the particular needs of different groups in the target communities. It combines anonymous mailboxes at community level, a trained local facilitator in each community who can listen to grievances while assuring anonymity and a telephone number that enables people to call anonymously. These options allow people to make their grievance in local languages, with options for illiterate people or people with low levels of literacy, and recognize that internet and smart phone penetration is not universal in the target area. Moreover, any stakeholder involved with the project can use any workshop, training or any other event organized by the project, either in public (i.e., through open floor discussion) or in private (i.e. discretely with UN-Habitat or executing entity staff involved with the workshop) can raise a grievance verbally.
- Project staff, including those from the executing entities will also be trained to recognize grievances from community members and how to deal with grievance reports. The local facilitators in each community will also be trained on to recognize dissatisfaction and on how to report grievances. In addition, monitoring activities will also provide an opportunity for beneficiary communities to voice their opinions as they wish. This recognizes that in Southeast Asian countries, some people don't feel confident in directly confronting grievances and don't like to be seen to complain. It allows people to raise issues in a subtle and anonymous way.
- All grievances will be anonymized and presented to the Project Steering Committee. All grievances will be treated with equal and urgent importance, regardless of who raised them, or the mode by which they did so.
- All stakeholders, including beneficiaries will be made aware of the grievance mechanism, their options for reporting, what constitutes a grievance and their right in anonymity at the start of the project, and/or whenever the project first makes contact with them (i.e., during the inception phase, whether in training, or whichever activities come first). Stakeholders will be reminded of the grievance mechanism periodically throughout the project.
- The address and email address of the Adaptation Fund will be made public (i.e. project website, Facebook and mailbox) for anyone to raise concerns regarding the project: Adaptation Fund Board Secretariat I Mail stop: MSN P-4-400 I 1818 H Street NW I Washington DC.

All physical works activities in the project will be undertaken under Component 3. These activities carry the risk of causing environmental and social impacts. As the activities implemented under the project will be local and small scale, it is deemed that they are not 'Category A' risks. All activities implemented under Component 3 are, therefore, Category B. The table below shows which outputs have risks aligned with the Adaptation Fund's Environmental and Social Principles as well as the summary of the assessment and screening for the impact should the intervention violate the environmental and social principles and the likelihood of this happening. Based on this screening on a scale of 1-5, with 5 being the highest, the combined score is then used to assess the significance with 8-10 assessed as high, 5-7 as medium and 2-4 as low.

A6. Table 1: Environmental and social risk screening and categorization

Adaptation Fund Safeguard Standards	UN-Habitat Safeguard Standards	Risk questions based on UN-Habitat guidance	Assessment	Impact (1-5)	Likelihood (1-5)	Significance (L/M/H)
Compliance with the Law *Projects/programmes supported by the Fund shall be in compliance with all applicable domestic and international law.*	P 8: Compliance with the Law	Are environmental, building, or other sectorial permits required by the local regulation? If yes, will these be followed by the project?	Yes, the Republic of Azerbaijan has a construction permit system (details can be found here) which will be followed in the construction process. Yes, for the Islamic Republic of Iran, the Ministry of Roads and Urban Development has authority over building codes and requirements. UN-Habitat will work with the Ministry to ensure all permitting requirements are followed.	3	1	L
		Will activities, machinery, or infrastructure associated to the project/programme imply or involve any violation of local regulations?	No for Outputs 3.2, 3.3, 3.4, and 3.7 as they will have minimal machinery or infrastructure. Yes, for output 3.1 there will be some machinery during construction, but risks are minimal Yes, for output 3.6, the installation of drainage infrastructure has a potential risk which will need to be mitigated			
	CCTA 2: Safety	Will the interventions affect the safety to live, work and participate in cities and human settlements?	No, the planned interventions are not foreseen to be disruptive to livelihoods or residing in the cities and human settlements, however during construction for outputs 3.1 and 3.6 there may be temporary disruption which will need to be mitigated.	3	1	L
		Will the interventions particularly affect the safety to live, work and participate in urban life for persons in vulnerable situations?	No, the interventions should not have any adverse safety impacts on persons in vulnerable situations.			
		Is there any risk of non-compliance with the United Nations principle of zero tolerance vis-à-vis Sexual Exploitation and Abuse?	No, the executing entity in the Republic of Azerbaijan is IOM and in the Islamic Republic of Iran it is UN-Habitat, both of which adhere to UN principle of zero tolerance.			
Access and Equity *Projects/programmes supported by the Fund shall provide fair and equitable access to benefits in a manner that is inclusive and does not impede access to basic health services, clean water and sanitation, energy, education, housing, safe and decent working conditions, and land rights. Projects/programmes should not exacerbate existing inequities, particularly with respect to marginalized or vulnerable groups.*	P 9: Access and Spatial Justice	Is the equal distribution of project/programme benefits guaranteed?	No, as activities under output 3.1 in Baku, 3.3 in Astara (AZ), 3.4 in Astara (Islamic Republic of Iran), 3.5 in Bandar-e-Kiashahr, and 3.6 in Mahmoudabad involve demonstration sites which do not cover the entirety of the city, there would be the potential to exacerbate inequalities.	4	4	H
		Could the interventions result in any form of discrimination in the access to the project/programme benefits?	Yes, with outputs 3.3 and 3.4, the rainwater harvesting will only provide a finite benefit in terms of water supply			
Marginalized and Vulnerable Groups *Projects/programmes supported by the Fund shall avoid imposing any disproportionate adverse impacts on marginalized and vulnerable groups including children, women and girls, the elderly, indigenous people, tribal groups, displaced people, refugees, people living with disabilities, and people living with HIV/AIDS. In screening any proposed project/programme, the implementing entities shall assess and consider particular impacts on marginalized and vulnerable groups.*	SII 3: Children, Youth and Older persons	Will there be negative impacts on children, youth and/or older persons?	No, the interventions do not have foreseen negative impacts on children, youth and/or older persons	3	2	M
		Will the interventions result in any form of discrimination against children, youth or older persons?	No, the interventions should not result in discrimination against children, youth or older persons. However for the EWS systems in outputs 3.2 and 3.7 special attention needs to be paid to ensure children, youth and older persons have access to the circulated EWS information.			
	SII 4: Disability	Will the interventions have negative impacts on persons with disabilities?	No, the interventions should not have negative impacts on persons with disabilities			
		Will the interventions result in any form of discrimination against persons with disabilities?	No, the interventions should not result in any discrimination against persons with disabilities. However for the EWS systems in outputs 3.2 and 3.7 special attention needs to be paid to persons with disabilities having access to the information. Also for output 3.1, the new greenspace has the potential to not be accessible to people with disabilities			
Human Rights *Projects/programmes supported by the Fund shall respect and where applicable promote international human rights.*	SII 1: Human Rights	Could the interventions result in the violation of any human right?	No, the proposed interventions should not result in the violation of any human rights. The Republic of Azerbaijan is a signatory and has ratified the majority of international human rights treaties. The Islamic Republic of Iran is a signatory/ has ratified half of international human rights treaties. Further the UN agencies follow a human-rights based approach and it is a fundamental foundation to the project.	3	1	L
Gender Equality and Women's Empowerment *Projects/programmes supported by the Fund shall be designed and implemented in such a way that both women and men (a) have equal opportunities to participate as per the Fund gender policy (refer to Annex 4 for details); (b) receive comparable social and economic benefits; (b) receive comparable social and economic benefits; and (c) do not suffer*	SII 2: Gender	Could the interventions have negative impacts on girls and women especially?	No, The interventions should not have a negative impact on girls and women	4	4	H
		Could the interventions adversely involve any form of discrimination against girls and women?	Yes, as outlined in the Gender Baseline Assessment Annex, both Azerbaijan and the Islamic Republic of Iran have low gender parity rankings with political empowerment in Azerbaijan and labor participation in being particularly imbalanced. There is therefore a risk that women are not fully included in the project and their potential to benefit is reduced.			

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disproportionate adverse effects during the development process.						
Core Labour Rights *Projects/programmes supported by the Fund shall meet the core labour standards as identified by the International Labor Organization.*	P 1: Labour and working conditions	Could worker's rights be neglected or violated?	No, the project will use skilled and unskilled labour both from the communities and hired as contractors.	3	1	L
		Could the work involve the use of child labour?	No, there will be no child labour utilized in the project.			
		Could the work involve the use of forced labour	No, there will be no forced labour utilized in the project.			
		Could the freedom of workers' organisations or collective bargaining be neglected?	No, local worker and labour organizations will be respected when relevant			
		Could the interventions particularly affect the safety to live, work and participate in urban life for persons in vulnerable situations?	The interventions should not have any adverse safety impacts on persons in vulnerable situations.			
Indigenous Peoples *The Fund shall not support projects/programmes that are inconsistent with the rights and responsibilities set forth in the UN Declaration on the Rights of Indigenous Peoples and other applicable international instruments relating to indigenous peoples*	P 6: Indigenous peoples	Could the interventions adversely impact the rights, lands, resources, and territories of the indigenous peoples?	No, the interventions will not have an impact on the rights, lands, resources and territories of indigenous peoples.	1	1	L
Involuntary Resettlement *Projects/programmes supported by the Fund shall be designed and implemented in a way that avoids or minimizes the need for involuntary resettlement. When limited involuntary resettlement is unavoidable, due process should be observed so that displaced persons shall be informed of their rights, consulted on their options, and offered technically, economically, and socially feasible resettlement alternatives or fair and adequate compensation.*	P 4: Displacement and involuntary resettlement	Will the interventions involve displacement, physical or economic, and/or involuntary resettlement?	No, all interventions were selected to avoid any resettlement, and this was considered as part of the initial screening for interventions. All interventions are on public land and will not require resettlement.	Not applicable	Not applicable	Not applicable
Protection of Natural Habitats *The Fund shall not support projects/programmes that would involve unjustified conversion or degradation of critical natural habitats, including those that are (a) legally protected; (b) officially proposed for protection; (c) recognized by authoritative sources for their high conservation value, including as critical habitat; or (d) recognized as protected by traditional or indigenous local communities.* Conservation of Biological Diversity *Projects/programmes supported by the Fund shall be designed and implemented in a way that avoids any significant or unjustified reduction or loss of biological diversity or the introduction of known invasive species.*	P 5: Biodiversity conservation, and sustainable management of living natural resources	Could the interventions adversely impact the marine ecosystem?	No for the majority of activities. However Output 3.5 as will involve tree planting in a coastal area and Output 3.6 will have drainage into the river so both of these pose risks.	4	3	M
		Could the interventions adversely impact natural habitats?	No for the majority of activities. However Output 3.5 as will involve tree planting in a coastal area and Output 3.6 will have drainage into the river so both of these pose risks.			
		Could the interventions adversely impact critical habitats?	Yes. While interventions were chosen to avoid damage to critical habitats, however given the degraded and precarious state of the Caspian Sea which is a critical habitat for many fish species, special attention must be paid.			
		Could interventions adversely impact legally protected areas (by national or international regulations)?	No, project sites were chosen at a distance from legally protected areas for this reason. In the Islamic Republic of Iran, there are marine protected areas near Bandar-Torkaman and Bandar-e-Kiashahr, however the interventions will take place outside of the protected area and will not adversely impact on the protected area. In the Republic of Azerbaijan, while there are several projected areas in the country, there are not any protected areas near the three project sites.			
Climate Change *Projects/programmes supported by the Fund shall not result in any significant or unjustified increase in greenhouse gas emissions or other drivers of climate change.*	P 2: Zero-carbon development, pollution prevention and resource efficiency	During construction or operation, will the interventions generate pollutants or waste, which could affect human health or the environment?	For the majority no, this is not an issue. But for Output 3.1 given the dry climate and the need remediate the soil where former rail lines were in place and have been in disuse	2 for Climate Change 4 for Pollution Prevention & Resource Efficiency	2 for Climate Change 4 for Pollution Prevention & Resource Efficiency	L for climate change H for Pollution Prevention and Resource Efficiency
		During construction or operation, will hazardous materials, or pesticides, which could affect human health or the environment, be used?	For the majority of the outputs, no this is not an issue. However, output 3.1 and 3.5 may use fertilizers			
Pollution Prevention and Resource Efficiency *Projects/programmes supported by the Fund shall be designed and implemented in a way that meets applicable international standards for maximizing energy efficiency and minimizing material resource*		Will the interventions Require a significant amount of water and/or energy, which implies competition with host communities (for instance, water for human consumption or economic activities)?	For the majority of interventions, no. However, output 3.1 and 3.5 will involve planting of new flora which will require water in the arid climate			

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use, the production of wastes, and the release of pollutants.		Does the project consider technologies and/or materials in support of a low/zero carbon development?	Yes, the interventions chosen are not energy intensive and the hydromet stations in Neftchala (Output 3.2) will utilize solar panels for energy and the conversion of land will be to add trees and greenspace (Output 3.1 and 3,5) which will absorb carbon.			
Public Health *Projects/programmes supported by the Fund shall be designed and implemented in a way* *that avoids potentially significant negative impacts on public health.*	P 3: Climate change resilience, community health, safety and security	Do the interventions involve activities, machinery or infrastructure which could have adverse impact on the community' health and safety? In case of an accident or emergency situation, could the effect on the surrounding community or in the ecosystem be significant?	For the majority of the investments, no. However, for outputs 3.1 and 3.6 will be undertaken in neighbourhoods with residential dwellings and commercial establishments and during construction this may result in dust and other disturbances to public health. There is not a significant chance of an accident or emergency situation that would affect the surrounding community.	4	2	M
Physical and Cultural Heritage *Projects/programmes supported by the Fund shall be designed and implemented in a way that avoids the alteration, damage, or removal of any physical cultural resources, cultural sites, and sites with unique natural values recognized as such at the community, national or international level. Projects/programmes should also not permanently interfere with existing access and use of such physical and cultural resources.*	P 7: Cultural Heritage	Could the interventions adversely impact cultural heritage properties and sites of archaeological, historical, cultural, artistic, and religious significance? Could the interventions adversely impact intangible heritage (uses and traditions...)?	No, the project sites are not in areas with cultural heritage properties. There are cultural heritage sites in Baku but they are not in the neighborhood with the intervention under 3.1. No, the interventions do not compete with any intangible heritage of uses or traditions in the two countries.	1	1	L
		In case the project/programme uses cultural heritage, is the access and use by stakeholder secured?	Not an issue.			
Lands and Soil Conservation *Projects/programmes supported by the Fund shall be designed and implemented in a way that promotes soil conservation and avoids degradation or conversion of productive lands or land that provides valuable ecosystem services.*		Do the interventions avoid degradation or conversion of productive lands or land that provides valuable ecosystem services? Do the interventions promote soil conservation?	No, the majority do not involve conversion of land. Yes, for Outputs 3.1 and 3.5 which will involve conversion of land however the current land would not be classified as productive and does not provide valuable ecosystem services. No, the majority will not promote soil conservation however Output 3.6 will involve digging up soil to install drainage that will deposit into river sediment areas and will need to be done to promote soil conservation.	2	3	M
No correlating AF principle	CCTA 1: Resilience	Could the interventions affect the protective factors and/or the adaptive capacity of environmental systems?	Yes, the aim of the project is to increase the adaptive capacity of environmental systems.	Not applicable	Not applicable	Not applicable
		Could the interventions affect the protective factors and/or the adaptive capacity of social (including urban, community and governance) systems?	Yes, the aim of the project is to increase the adaptive capacity of social systems.			

Following project risk identification through a consultative process involving national level stakeholders, and the three participating UN agencies aas well as screening of the project risks by each utilizing questions from UN-Habitat's Environmental and Social Safeguard System (ESSS), the Component 3 Risk Category is determined as B and the rest of the project overall Project Risk Category has been determined is Category C since the Component 3 risks are moderate, the likely impacts are site specific and manageable. Risks and impacts according to AF principles and associated project activities are identified and mitigation measures proposed are presented in Table A6. Table 2..

A6. Table 2: Description of Project ESS Risks, Impacts and mitigation measures

Adaptation Fund Environmental and Social Principles	Further Assessment required for compliance	Risks	Impacts	Relevant Project Outputs	Mitigation Measures
1. Compliance with the Law	No – Low	Low Risk: UN-Habitat and IOM abide by international and national laws for safety and permitting. Azerbaijan and Iran both have national laws in place for permitting and construction which will be followed by the project.	Negative (Environmental) If procedures are not followed then there would be a negative impact on the environment, especially from the drainage infrastructure in Iran for output 3.6 and the machinery needed for construction for Output 3.1 in Baku.	3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7	During the implementation of local initiatives, adherence with laws on construction, safety and permitting in the Republic of Azerbaijan and the Islamic Republic of Iran will be ensured, following the legal requirements and regulations set by local and national government agencies related to building and construction projects. This will include building codes, safety standards, environmental regulations, and obtaining necessary permits and approvals before starting construction. Compliance ensures the safety and well-being of the construction workers, public and the environment. Failing to comply with these laws can result in fines, legal penalties, and even halt to construction.
2. Access and Equity	Yes - High	High Risk: Given that benefits from the project will not be distributed to the entire city, there is a risk that there will be unequal distribution of benefits especially in Baku, Astara (AZ), Astara (Iran), Bandar-e-Kiashahr, and Mahmoudabad	Negative (Social): If certain groups or areas of the city are perceived to benefit from the project while others do not, there could be backlash against the project, local officials and/or further upgrades.	3.1, 3.3, 3.4, 3.5, 3.6	In the Republic of Azerbaijan, the development of further plans to expand activities will support wider and equitable access to services city-wide. In the sites in The Islamic Republic of Iran, these were chosen with the current inequalities and vulnerabilities in mind and with efforts to counterbalance those access issues. In both cases, transparency about the project plans, selection process and future plans need to be publicly available and communicated through local officials. In the Republic of Azerbaijan (output 3.3), the development of further plans to expand activities will support wider and equitable access to services city-wide. In the sites in

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					The Islamic Republic of Iran (output 3.4), all residents in the building will have access to the water benefits. With all investments, there will be considerations of how some groups, such as migrants, ethnic minorities, and single parent households may have traditionally had less access to water and information services, the project will actively aim to ensure these imbalances are corrected instead of exacerbated by involving diverse groups in consultation and preparation of investment activities.
3. Marginalized and Vulnerable Groups	Yes- Medium	Medium Risk: People with disabilities may not have access to the Early Warning System and Climate Resilient Livelihood options in Neftchala and Bandar-Torkaman and may not be able to enjoy the greenspace in Baku.	Negative (Social) People with disabilities such as people with blindness or deafness would not be aware when the disaster or negative conditions related to salinization, flooding and drought and may not be able to prepare as early as others when they could be at higher risk to the impacts of flooding. In addition, they may not be able to participate in all Climate Resilient Livelihoods. In Baku, people with disabilities would not be able to benefit from the greenspace if it is not designed to accommodate them.	3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7	For outputs 3.2 and 3.7, the communication system to provide updates on salinization, drought, and flooding from the EWS will be designed to utilize multiple media modalities to ensure people with sensory disabilities are able to get the information. For the Climate Resilient Livelihoods work, this will take into account and present options for all marginalized and vulnerable groups, including people with disabilities to ensure options are accessible. In Baku, with output 3.1, the design will consider accessibility for people with disabilities.
4. Human Rights	Yes - Low	Low Risk: With the UN as Executing Entities and the nature of the direct interventions, there is limited likelihood of human rights violations.	Negative (Social)	3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7	In the Republic of Azerbaijan is a signatory and has ratified the majority of international human rights treaties. The Islamic Republic of Iran is a signatory/has ratified half of international human rights treaties. The project itself works on public land (thus mitigating any risk of resettlement), the project will not use the labour of anyone under the age of 18, or any forced labour (and labour issues are considered in Core Labour Rights). The United Nations work to prevent human rights violations during project implementation by incorporating human rights principles into their policies and procedures. Hence, UN-Habitat as implementing entity and UNEP as well as IOM as executing entities of this regional programme, do comply to these principles. This will include measures such as: • Community engagement and consultation: Ensuring that communities are consulted and their views taken into consideration before and during project implementation. • Environmental and social impact assessments: Carrying out assessments to ensure that projects do not have adverse impacts on communities and their rights. • Anti-discrimination policies: Implementing policies that prohibit discrimination and promote equality and non-discrimination in all aspects of project implementation. • Grievance mechanisms: Establishing effective grievance mechanisms for communities to raise concerns and address any human rights violations during project implementation. • Monitoring and evaluation: Regularly monitoring and evaluating the implementation of projects to identify and address any human rights violations. By taking these and other measures, UN-Habitat, UNEP and IOM aim to ensure that projects are implemented in a manner that respects and protects the human rights of all those affected by them.
5. Gender Equity and Women's Empowerment	Yes- High	High Risk: Although the project activities themselves should not exacerbate any gender disparities, given the situation in the countries as outlined in the Gender Baseline Assessment Annex, both Azerbaijan and the Islamic Republic of Iran have low gender parity rankings with political empowerment in Azerbaijan and labor participation in being particularly imbalanced. There is therefore a risk that women are not fully included in the project and their potential to benefit is reduced.	Negative (Social) Lack of input by women in community consultation processes can mean that their concerns and needs are overlooked despite evidence that women are disproportionately affected by climate change. Lack of participation of women in trainings and capacity building mean that they are a further disadvantage in skills needed for adaptation and to address a changing climate at the national and local level.	3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7	The engagement of women, especially female migrants and women and girls in families left behind by migrants, in the trainings, capacity building and consultations will be prioritized as outlined in the plan below. Attention to how women are disproportionately affected by heat, drought and flooding risk and how to ensure they benefit from the measures, including the EWS, public green spaces and improved water access will be emphasized throughout implementation. During the project implementation, UN-Habitat as implementing entity will ensure the equal rights, responsibilities, and opportunities for all genders, regardless of their sex. Particular attention will be paid to women's empowerment, hereby increasing the social, economic, and decision-making abilities of women. Within the cultural context in the Caspian Sea region, gender norms and stereotypes will be challenged and an environment where women can thrive enabled. This is within the framework and concepts for promoting human rights and creating a more just and equal society.
6. Core Labor Rights	No – Low	Low Risk: With the IOM and UN-Habitat as Executing Entities, they will ensure all labor rights are respected.	Negative (Economic) If labor rights were not respected this would have a negative impact on the economic well-being of workers associated with the project	3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7	This project is committed to ensuring that all workers are treated with dignity and respect, and that their rights are protected. This includes compliance with international labor standards, including the prohibition of child labor and forced labor. UN-Habitat as implementing entity and IOM as executing entity will take all necessary steps to

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					ensure that these standards are upheld throughout the entire supply chain, and will take appropriate action in the event of any violations. The Executing Entities will ensure all contracts are in place that meet core labor standards. Contracts should include occupational health and safety provisions in their budget. Safety measures are implemented while implementing work and PPE and safety gears are provided and used by workers at project site. Worker data to be maintained at site with age and identify cards. There will be monitoring of work sites throughout the course of the project.
7. Indigenous Peoples	No – Low	Low Risk: The interventions will not have an impact on the rights, lands, resources and territories of indigenous peoples.	Negative (Social)	3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7	The project will ensure that free and prior informed consent are secured for all activities that associated with stakeholders including marginalized and vulnerable groups.
8. Involuntary Resettlement [14]	No - Low	Low Risk: The interventions will not promote the implementation of local initiatives that will foster involuntary relocation.	Negative (Social)	3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7	This programme is committed to avoiding involuntary relocation of communities and minimizing its adverse impacts. By adopting this policy, UN-Habitat as implementing entity will aim to ensure that the project is implemented in a manner that respects the rights and dignity of affected communities and minimizes the adverse impacts of relocation.
9. Protection of natural Habitats	Yes- Medium	Medium Risk: Output 3.5 as will involve tree planting in a coastal area and Output 3.6 will have drainage into the river so both of these pose risks to natural habitats, including marine/coastal ecosystems.	Negative (Environmental, Economic) Given the degraded and precarious state of the Caspian Sea which is a critical habitat for many fish species, further negative impacts on the natural habitat would compound the issues with economic impacts on fisheries and environmental impacts of further alteration of the natural environment.	3.1, 3.5, 3.6	For Output 3.1 and 3.5, plant species will be chosen with consideration to avoid invasive species. For Output 3.6, the drainage must include proper filtration in the design to avoid any adverse consequences on the natural environment. Studies as part of the national component, including the nature-based solutions study, and monitoring as part of the regional component will support better understanding of environmental hazards and ensure interventions do not exacerbate existing issues.
10. Conservation and Biological Diversity	Yes- Medium	Medium Risk: Although project sites were chosen at a distance from legally protected areas. Output 3.1 and 3.5 will involve alterations to the environment which if not undertaken with the current and future climate and pressures on biodiversity and water resources could exacerbate problems	Negative (Environmental) Non-native and invasive species would harm existing biodiversity if utilized. Water intensive plants in the arid environments would also tax existing biodiversity and increase existing degradation	3.1, 3.5	For Output 3.1 and 3.5, plant species will be chosen with consideration to avoid invasive and water intensive species. With output 3.5, the fir tree species has been chosen and it is native to the region. Studies as part of the national component, including the nature-based solution study, and monitoring as part of the regional component will support better understanding of environmental hazards and ensure interventions do not exacerbate existing issues.
11. Climate Change	No – Low	Low Risk: The interventions are not energy intensive and involve net carbon land use changes.	Positive (Environmental) Given the use of solar panels in the hydromet stations in Neftchala (Output 3.2) and the conversion of land will be to add trees and greenspace (Output 3.1 and 3,5) which will absorb carbon, the interventions can have a positive climate change mitigation co-benefit.	3.1, 3.2, 3.5	If feasible, monitoring of carbon dioxide reduction will be included to monitor positive co-benefits.
12. Pollution Prevention and Resource Efficiency	Yes- High	High Risk: There are risks due to the use of fertilizers for 3.1 and 3.5 and the arid conditions which can exacerbate dust during construction as well as cause competition over water resources for new planting. The need to remediate soil in the rail lines in Baku can also increase exposure if not handled properly.	Negative (Environmental) Possibility of exposure to contaminated soil in Baku Possibility of air pollution due to dust from construction Possibility of competition over water resources from plantings	3.1, 3.5	With output 3.1, plant species will be chosen that are not water intensive and are native species. With output 3.5, the fir tree species has been chosen and it is native to the region. Proper application of fertilizers will be followed and fertilizers will be selected that have the minimum impact on environment and human health. Proper remediation procedures will be followed to ensure no adverse impacts The implementation of local initiatives with construction components will protect the environment and ensure to minimize any negative impacts on the surrounding community. This will be achieved through the implementation of strict pollution prevention measures, including but not limited to: • Regular monitoring and control of air and water quality to ensure it meets or exceeds local and national standards. • Proper disposal of waste and management of hazardous materials to prevent contamination. • Implementation of noise control measures to limit excessive noise levels.

[14] IOM is referring to “planned relocation” instead of using the term “resettlement”. In the context of disasters or environmental degradation, including when due to the effects of climate change, a planned process in which persons or groups of persons move or are assisted to move away from their homes or place of temporary residence, is settled in a new location and provided with the conditions for rebuilding their lives (IOM Glossary 2019, p.157).

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					UN-Habitat as implementing entity is committed to working closely with local authorities and relevant experts to ensure that these measures are implemented effectively, and that the construction and planting processes have a minimal impact on pollution.
13. Public Health	Yes - Medium	Medium Risk: For outputs 3.1 and 3.6 that will be undertaken in neighbourhoods with residential dwellings and commercial establishments and during construction this may result in dust and other disturbances to public health.	Negative (Environmental) Possibility of adverse health effects to community during construction phase	3.1, 3.6	The implementation of local initiatives with construction components will protect public health and ensure to minimize any negative impacts on the surrounding community. This will be achieved through the implementation of strict health and safety measures, including but not limited to: • Regular monitoring and control of air and water quality to ensure it meets or exceeds local and national standards. • Proper disposal of waste and management of hazardous materials to prevent contamination. • Implementation of noise control measures to limit excessive noise levels. • Provision of adequate personal protective equipment for workers and regular training on health and safety. • Regular communication with local residents and other stakeholders to keep them informed and address any concerns they may have. UN-Habitat as implementing entity is committed to working closely with local authorities and relevant experts to ensure that these measures are implemented effectively, and that the construction process has a minimal impact on public health.
14. Physical and Cultural Heritage	No – Low	Low Risk: Due to the lack of physical and cultural heritage sites in the specific areas.	Negative (Social) Very low possibility of reduced access to intangible elements of culture		Although there are no physical or cultural heritage sites in the area, attention will be paid to intangible elements of a society, such as language, traditions, beliefs, and values that are passed down from one generation to the next. Community consultations will discuss these intangible elements and ensure no issues arise.
15. Lands and Soil Conservation	Yes- Medium	Medium Risk: Outputs 3.1 and 3.5 will involve conversion of land however the current land would not be classified as productive and does not provide valuable ecosystem services. Output 3.6 will involve digging up soil to install drainage that will deposit into river sediment areas and will need to be done to promote soil conservation.	Negative (Environmental) Possible disruption to soil conservation and lands due to infrastructure improvements and planting/greening	3.1, 3.5, 3.6	The construction and tree planting process involved in 3.1, 3.5, and 3.6 will employ techniques to minimize disruptions to soil and river sediment will be monitored in the case of output 3.6

Project Environmental and Social Management Plan (ESMP)

The project level ESMP has been developed through consultative identification of mitigation measures for each identified risk

A6. Table 3: Environmental and Social Management Plan

Adaptation Fund Environmental and Social Principles	Risks	Mitigation Measures	Responsible	Consulted	Supervision/ Accountable	Timing
1. Compliance with the Law	Low Risk: UN-Habitat and IOM abide by international and national laws for safety and permitting. Repiblic of Azerbaijan and Iran both have national laws in place for permitting and construction which will be followed by the project.	During the implementation of local initiatives, adherence with laws on construction, safety and permitting in the Republic of Azerbaijan and the Islamic Republic of Iran will be ensured, following the legal requirements and regulations set by local and national government agencies related to building and construction projects. This will include building codes, safety standards, environmental regulations, and obtaining necessary permits and approvals before starting construction. Compliance ensures the safety and well-being of the construction workers, public and the environment. Failing to comply with these laws can result in fines, legal penalties, and even halt to construction.	Republic of Azerbaijan: IOM Azerbaijan Islamic Republic of Iran: UN-Habitat Islamic Republic of Iran office	Republic of Azerbaijan: State Committee on Urban Planning and Architecture Islamic Republic of Iran: Ministry of Roads and Urban Development	UN-Habitat HQ in Nairobi	Continuous with the issuance of contracts
2. Access and Equity	High Risk: Given that benefits from the project will not be distributed to the entire city, there is a risk that there will be unequal distribution of benefits especially in Baku, Astara (AZ), Astara (Iran), Bandar-e-Kiashahr, and Mahmoudabad	In the Republic of Azerbaijan, the development of further plans to expand activities will support wider and equitable access to services city-wide. In the sites in The Islamic Republic of Iran, these were chosen with the current inequalities and vulnerabilities in mind and with efforts to counterbalance those access issues. In both cases, transparency about the project plans, selection process and future plans need to be publicly available and communicated through local officials. In the Republic of Azerbaijan (output 3.3), the development of further plans to expand activities will support wider and equitable access to services city-wide. In the sites in The Islamic Republic of Iran (output 3.4), all residents in the building will have access to the water benefits.	PMU	Communities in all seven project sites	Republic of Azerbaijan: IOM Azerbaijan Islamic Republic of Iran: UN-Habitat Islamic Republic of Iran office	During community consultations for the concrete investments in Year 1 and checking in during the mid-term in Year 3

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		With all investments, there will be considerations of how some groups, such as migrants, ethnic minorities, and single parent households may have traditionally had less access to water and information services, the project will actively aim to ensure these imbalances are corrected instead of exacerbated by involving diverse groups in consultation and preparation of investment activities.				
3. Marginalized and Vulnerable Groups	Medium Risk: People with disabilities may not have access to the Early Warning System and Climate Resilient Livelihood options in Neftchala and Bandar-Torkaman and may not be able to enjoy the greenspace in Baku.	For outputs 3.2 and 3.7, the communication system to provide updates on salinization, drought, and flooding from the EWS will be designed to utilize multiple media modalities to ensure people with sensory disabilities are able to get the information. For the Climate Resilient Livelihoods work, this will take into account and present options for all marginalized and vulnerable groups, including people with disabilities to ensure options are accessible. In Baku, with output 3.1, the design will consider accessibility for people with disabilities.	PMU with consultants working on EWS communication system and Baku green corridor	People with disabilities and other marginalized communities at all sites	Republic of Azerbaijan: IOM Azerbaijan Islamic Republic of Iran: UN-Habitat Islamic Republic of Iran office	During community consultations for the concrete investments in Year 1 and checking in during the mid-term in Year 3
4. Human Rights	Low Risk: With the UN as Executing Entities and the nature of the direct interventions, there is limited likelihood of human rights violations.	The Republic of Azerbaijan is a signatory and has ratified the majority of international human rights treaties. The Islamic Republic of Iran is a signatory/has ratified half of international human rights treaties. The project itself works on public land (thus mitigating any risk of resettlement), the project will not use the labour of anyone under the age of 18, or any forced labour (and labour issues are considered in Core Labour Rights). The United Nations wok to prevent human rights violations during project implementation by incorporating human rights principles into their policies and procedures. Hence, UN-Habitat as implementing entity and UNEP as well as IOM as executing entities of this regional programme, do comply to these principles. This will include measures such as: Community engagement and consultation: Ensuring that communities are consulted and their views taken into consideration before and during project implementation. Environmental and social impact assessments: Carrying out assessments to ensure that projects do not have adverse impacts on communities and their rights. Anti-discrimination policies: Implementing policies that prohibit discrimination and promote equality and non-discrimination in all aspects of project implementation. Grievance mechanisms: Establishing effective grievance mechanisms for communities to raise concerns and address any human rights violations during project implementation. Monitoring and evaluation: Regularly monitoring and evaluating the implementation of projects to identify and address any human rights violations. By taking these and other measures, UN-Habitat, UNEP and IOM aim to ensure that projects are implemented in a manner that respects and protects the human rights of all those affected by them.	Republic of Azerbaijan: IOM Azerbaijan Islamic Republic of Iran: UN-Habitat Islamic Republic of Iran office	Communities in all seven project sites Republic of Azerbaijan: Ministry of Ecology and Natural Resources Islamic Republic of Iran: Ministry of Foreign Affairs	UN-Habitat HQ in Nairobi	Continuous throughout the project
5. Gender Equity and Women's Empowerment	High Risk: Although the project activities themselves should not exacerbate any gender disparities, given the situation in the countries as outlined in the Gender Baseline Assessment Annex, both the Republic of Azerbaijan and the Islamic Republic of Iran have low gender parity rankings with political empowerment in the Republic of Azerbaijan and labor participation in being particularly imbalanced. There is therefore a risk that women are not fully included in the project and their potential to benefit is reduced.	The engagement of women, especially female migrants and women and girls in families left behind by migrants, in the trainings, capacity building and consultations will be prioritized as outlined in the plan below. Attention to how women are disproportionately affected by heat, drought and flooding risk and how to ensure they benefit from the measures, including the EWS, public green spaces and improved water access will be emphasized throughout implementation. During the project implementation, UN-Habitat as implementing entity will ensure the equal rights, responsibilities, and opportunities for all genders, regardless of their sex. Particular attention will be paid to women's empowerment, hereby increasing the social, economic, and decision-making abilities of women. Within the cultural context in the Caspian Sea region, gender norms and stereotypes will be challenged and an environment where women can thrive enabled. This is within the framework and concepts for promoting human rights and creating a more just and equal society.	PMU with gender consultants	Women and men in all seven communities Republic of Azerbaijan: Ministry of Ecology and Natural Resources Islamic Republic of Iran: Ministry of Foreign Affairs	Republic of Azerbaijan: IOM Azerbaijan Islamic Republic of Iran: UN-Habitat Islamic Republic of Iran office	Continuous throughout the project
6. Core Labor Rights	Low Risk: With the IOM and UN-Habitat as Executing Entities, they will ensure all labor rights are respected.	This project is committed to ensuring that all workers are treated with dignity and respect, and that their rights are protected. This includes compliance with international labor standards, including the prohibition of child labor and forced labor. UN-Habitat as implementing entity and IOM as executing entity will take all necessary steps to ensure that these standards are upheld throughout the entire supply chain, and will take appropriate action in the event of any violations. The Executing Entities will ensure all contracts are In place that meet core labor standards. Contracts should include occupational health and safety provisions in their budget. Safety measures are implemented while implementing work and PPE and safety gears are provided and used by workers at project site. Worker data to be maintained at site with age and identify cards. There will be monitoring of work sites throughout the course of the project.	Republic of Azerbaijan: IOM Azerbaijan Islamic Republic of Iran: UN-Habitat Islamic Republic of Iran office	Republic of Azerbaijan: State Committee on Urban Planning and Architecture Islamic Republic of Iran: Ministry of Roads and Urban Development	UN-Habitat HQ in Nairobi	Continuous with the issuance of contracts
7. Indigenous Peoples	Low Risk: The interventions will not have an impact on the rights, lands, resources and territories of indigenous peoples.	The project will ensure that free and prior informed consent are secured for all activities that associated with stakeholders including marginalized and vulnerable groups.	PMU	Communities at each of the seven project sites	Republic of Azerbaijan: IOM Azerbaijan	In Year 1 as interventions are starting and then as needed throughout the course of the project

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					Islamic Republic of Iran: UN-Habitat Islamic Republic of Iran office	
8. Involuntary Resettlement	Low Risk: The interventions will not promote the implementation of local initiatives that will foster involuntary relocation.	This programme is committed to avoiding involuntary relocation of communities and minimizing its adverse impacts. The following measures will be taken: • Conducting comprehensive assessments of the potential impacts of the programme on communities and their livelihoods. • Engaging with affected communities and stakeholders to ensure that their views and needs are taken into consideration. • Seeking alternative solutions that avert or minimize relocation where possible, such as modifying project design or relocating facilities. • Where relocation is unavoidable, ensure that it is carried out in a manner that is fair, transparent, and in accordance with international standards. • Providing adequate compensation and support for those who are relocated, including assistance in relocating and restoring their livelihoods. • Monitoring and evaluating the relocation process to ensure that the rights and needs of affected communities are protected and addressed.	PMU	Communities at each of the seven project sites Republic of Azerbaijan: State Committee on Urban Planning and Architecture Islamic Republic of Iran: Ministry of Roads and Urban Development	Republic of Azerbaijan: IOM Azerbaijan Islamic Republic of Iran: UN-Habitat Islamic Republic of Iran office	In Year 1 as interventions are starting and then as needed throughout the course of the project
9. Protection of natural Habitats	Medium Risk: Output 3.5 as will involve tree planting in a coastal area and Output 3.6 will have drainage into the river so both of these pose risks to natural habitats, including marine/coastal ecosystems.	For Output 3.1 and 3.5, plant species will be chosen with consideration to avoid invasive species. For Output 3.6, the drainage must include proper filtration in the design to avoid any adverse consequences on the natural environment. Studies as part of the national component, including the nature-based solutions study, and monitoring as part of the regional component will support better understanding of environmental hazards and ensure interventions do not exacerbate existing issues.	PMU with consultants and contractors	Republic of Azerbaijan: Ministry of Ecology and Natural Resources Islamic Republic of Iran: Department of Environment	Republic of Azerbaijan: IOM Azerbaijan Islamic Republic of Iran: UN-Habitat Islamic Republic of Iran office	In Year 1 as interventions are starting and then as needed throughout the course of the project
10. Conservation and Biological Diversity	Medium Risk: Although project sites were chosen at a distance from legally protected areas. Output 3.1 and 3.5 will involve alterations to the environment which if not undertaken with the current and future climate and pressures on biodiversity and water resources could exacerbate problems.	For Output 3.1 and 3.5, plant species will be chosen with consideration to avoid invasive and water intensive species. With output 3.5, the fir tree species has been chosen and it is native to the region. Studies as part of the national component, including the nature-based solution study, and monitoring as part of the regional component will support better understanding of environmental hazards and ensure interventions do not exacerbate existing issues.	PMU with consultants and contractors	Republic of Azerbaijan: Ministry of Ecology and Natural Resources Islamic Republic of Iran: Department of Environment	Republic of Azerbaijan: IOM Azerbaijan Islamic Republic of Iran: UN-Habitat Islamic Republic of Iran office	In Year 1 as interventions are starting and then as needed throughout the course of the project
11. Climate Change	Low Risk: The interventions are not energy intensive and involve net carbon land use changes.	If feasible, monitoring of carbon dioxide reduction will be included to monitor positive co-benefits.	PMU	Republic of Azerbaijan: Ministry of Ecology and Natural Resources Islamic Republic of Iran: Department of Environment	Republic of Azerbaijan: IOM Azerbaijan Islamic Republic of Iran: UN-Habitat Islamic Republic of Iran office	In Year 1 if possible
12. Pollution Prevention and Resource Efficiency	High Risk: There are risks due to the use of fertilizers for 3.1 and 3.5 and the arid conditions which can exacerbate dust during construction as well as cause competition over water resources for new planting. The need to remediate soil in the rail lines in Baku can also increase exposure if not handled properly.	With output 3.1, plant species will be chosen that are not water intensive and are native species. With output 3.5, the fir tree species has been chosen and it is native to the region. Proper application of fertilizers will be followed and fertilizers will be selected that have the minimum impact on environment and human health. Proper remediation procedures will be followed to ensure no adverse impacts The implementation of local initiatives with construction components will protect the environment and ensure to minimize any negative impacts on the surrounding community. This will be achieved through the implementation of strict pollution prevention measures, including but not limited to: Regular monitoring and control of air and water quality to ensure it meets or exceeds local and national standards. Proper disposal of waste and management of hazardous materials to prevent contamination. Implementation of noise control measures to limit excessive noise levels. UN-Habitat as implementing entity is committed to working closely with local authorities and relevant experts to ensure that these measures are implemented effectively, and that the construction and planting processes have a minimal impact on pollution.	PMU	Republic of Azerbaijan: Ministry of Ecology and Natural Resources: State Committee on Urban Planning and Architecture Islamic Republic of Iran: Ministry of Roads and Urban Development; Department of Environment	Republic of Azerbaijan: IOM Azerbaijan Islamic Republic of Iran: UN-Habitat Islamic Republic of Iran office	In Year 1 as interventions are starting and then as needed throughout the course of the project
13. Public Health	Medium Risk: For outputs 3.1 and 3.6 that will be undertaken in neighbourhoods with residential dwellings and commercial establishments and during construction this may result in dust and other disturbances to public health.	The implementation of local initiatives with construction components will protect public health and ensure to minimize any negative impacts on the surrounding community. This will be achieved through the implementation of strict health and safety measures, including but not limited to: Regular monitoring and control of air and water quality to ensure it meets or exceeds local and national standards. Proper disposal of waste and management of hazardous materials to prevent contamination. Implementation of noise control measures to limit excessive noise levels.	PMU	Republic of Azerbaijan: Ministry of Ecology and Natural Resources: State Committee on Urban Planning and Architecture	Republic of Azerbaijan: IOM Azerbaijan Islamic Republic of Iran: UN-Habitat Islamic Republic of Iran office	In Year 1 as interventions are starting with monitoring during construction periods

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		Provision of adequate personal protective equipment for workers and regular training on health and safety. Regular communication with local residents and other stakeholders to keep them informed and address any concerns they may have. UN-Habitat as implementing entity is committed to working closely with local authorities and relevant experts to ensure that these measures are implemented effectively, and that the construction process has a minimal impact on public health.		Islamic Republic of Iran: Ministry of Roads and Urban Development; Department of Environment		
14. Physical and Cultural Heritage	Low Risk: Due to the lack of physical and cultural heritage sites in the specific areas.	Although there are no physical or cultural heritage sites in the area, attention will be paid to intangible elements of a society, such as language, traditions, beliefs, and values that are passed down from one generation to the next. Community consultations will discuss these intangible elements and ensure no issues arise.	PMU	Communities in the seven project sites Republic of Azerbaijan : Ministry of Culture Islamic Republic of Iran: Ministry of Cultural Heritage, Handicrafts and Tourism	Republic of Azerbaijan: IOM Azerbaijan Islamic Republic of Iran: UN-Habitat Islamic Republic of Iran office	In Year 1 as projects start
15. Lands and Soil Conservation	Medium Risk: Outputs 3.1 and 3.5 will involve conversion of land however the current land would not be classified as productive and does not provide valuable ecosystem services. Output 3.6 will involve digging up soil to install drainage that will deposit into river sediment areas and will need to be done to promote soil conservation.	The construction and tree planting process involved in 3.1, 3.5, and 3.6 will employ techniques to minimize disruptions to soil and river sediment will be monitored in the case of output 3.6	PMU	Republic of Azerbaijan: Ministry of Ecology and Natural Resources Islamic Republic of Iran: Department of Environment	Republic of Azerbaijan: IOM Azerbaijan Islamic Republic of Iran: UN-Habitat Islamic Republic of Iran office	In Year 1 as interventions are starting with monitoring during construction and tree planting periods

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ANNEX 7: GENDER BASELINE ASSESSMENT IN COMPLIANCE WITH THE GENDER POLICY OF THE ADAPTATION FUND

This annex summarizes the gender baseline assessment that was developed to a) ensure compliance with the Adaptation Fund's gender policy and b) to provide an analysis of the local context around gender issues and demonstrate what measures have been built into the project to ensure that men and women have equal opportunities to build resilience and address their differentiated vulnerabilities.

During full proposal preparation the Gender Baseline Assessment' has been conducted to identify potential project gender equality and women's and youth empowerment issues, but also opportunities. The outcomes are summarized below, as well as arrangements that will be taken during project implementation to comply to the AF GP, including to show how the project contributes to improving gender equality, the empowerment of women and the project interventions' suitability to meet the adaptation needs of targeted populations.

Determinants for gender-responsive stakeholder consultations

Type of Stakeholder	Specific stakeholder
National government	Islamic Republic of Iran: Director General for International Environmental and Sustainable Development Affairs of the Ministry of Foreign Affairs (co-leading), Ministry of Roads and Urban Development and (supporting), Department of Environment (supporting). Republic of Azerbaijan: Ministry of Ecology and Natural Resources (leading), State Committee on Urban Planning and Architecture (supporting).
UN agencies	UN-Habitat
Community level	Community consultations and focus group discussions with women

Data baseline

For the present Baseline Assessment, the Global Gender Gap Index is used as a reference point. The GGI benchmarks progress towards gender parity and compares countries' gender gaps across four dimensions: economic opportunities, education, health, and political leadership. By providing country rankings, the report incentivizes comparisons across regions and countries and stimulates learning on the drivers of gender gaps and policies to close them.

- ***Islamic Republic of Iran***

The Islamic Republic of Iran is ranked globally 150 out of 156 countries, and 16 out of 19 in its region with a Gender Gap score of 58,2%. The second-largest gender gap among the four components of the index is for the Economic Participation and Opportunity subindex at 37.5%. One of the most important sources of inequality between men and women is women's underrepresentation in the labour market. Participating in labour markets has been an important channel for economic empowerment of women and for building diverse, inclusive, and innovative organizations. In the Islamic Republic of Iran only 18.9% of women are participating in the labour market, one of the lowest rates in the world. If labour force participation is already limited, equal outcomes on leadership or managerial positions are even lower. A woman's incomes is also on average only 18% of that of a man in the Islamic Republic of Iran. Selected Development Indicators for Men and Women below:

SELECTED CONTEXTUAL DATA			Islamic Rep. Iran Rank 150/156
General indicators	Female	Male	Value
GDP, US$ billions	-	-	610.7
GDP per capita, constant '17 intl. $ 1000	-	-	11.32
Total population, million people	41.02	41.89	82.91
Population growth rate, %	1.44	1.28	1.36
Population sex ratio (female/male), female/male rat	49.48	50.52	0.98
Work participation and leadership	Female	Male	Value
Labour force, million people	n/a	n/a	n/a
Unemployed adults, % of labour force (15-64)	n/a	n/a	n/a
Workers employed part-time, % of employed people	55.69	26.91	2.07
Gender pay gap (OECD only), %	n/a	n/a	n/a
Proportion of unpaid work per day, female/male rat	-	-	3.91
Advancement of women to leadership roles, 1-7 (b	-	-	3.25
Gender parity in tech roles, 1-7 (best)	-	-	4.65
Boards of listed companies,% board members	n/a	n/a	n/a
Firms with female majority ownership, % firms	n/a	n/a	n/a
Firms with female top managers, % firms	n/a	n/a	n/a
Share of workers in informal sector, % workers	n/a	n/a	n/a
Civil and political freedom	Female	Male	Value
Year women received right to vote –	-	-	1963
Number of female heads of state to date	-	-	0
Election list quotas for women, national, yes/no	n/a	n/a	n/a
Party membership quotas, voluntary, Yes/no	n/a	n/a	n/a
Seats held in upper house,% total seats	n/a	n/a	n/a
Right to equal justice, 0-1 (worst)	-	-	0.75
Right to travel outside the country, 0-1 (worst)	-	-	1

COUNTRY SCORE CARD					
Economic participation and opportunity	Rank	Score	Female	Male	F/M
	150	0.375			
Labour force participation rate, %	152	0.246	18.9	76.9	0.25
Wage equality for similar work, 1-7 (best)	110	0.579	-	-	4.05
Estimated earned income, int'l $ 1,000	150	0.184	3.7	20.2	0.18
Legislators, senior officials and managers, %	123	0.258	20.5	79.5	0.26
Professional and technical workers, %	121	0.553	35.6	64.4	0.55
Educational attainment	Rank	Score	Female	Male	F/M
	119	0.953			
Literacy rate, %	113	0.894	80.8	90.4	0.89
Enrolment in primary education, %	110	0.992	97.5	98.3	0.99
Enrolment in secondary education, %	117	0.976	80.4	82.3	0.98
Enrolment in tertiary education, %	115	0.857	62.9	73.3	0.86
Health and survival	Rank	Score	Female	Male	F/M
	129	0.963			
Sex ratio at birth, %	1	0.944	-	-	0.95
Healthy life expectancy, years	137	1.008	66.5	66	1.01
Political empowerment	Rank	Score	Female	Male	F/M
	151	0.036			
Women in parliament , %	148	0.059	5.6	94.4	0.06
Women in ministerial positions, %	136	0.072	6.7	93.3	0.07
Years with female/male head of state (last 50)	76	0	0	50	0

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According to UN Women, the Islamic Republic of Iran faces great women political underrepresentation (only 5.6% of seats in parliament, and 3,2% of local government), gender gap in time on unpaid care and domestic work (4 times more for women) and lack of comparable methodologies for regular monitoring in key areas, such gender and poverty, physical and sexual harassment, women's access to assets (including land), and gender and the environment. As of 2020, only 43,4 % of SDG monitoring indicators were available, in the absence of crucial once, such as the gender pay gap and other essential labour market indicators[15]. The following indicators also show higher performance for women: unemployment rate (19% vs. 10,5% for men); proportion of population above statutory pensionable age receiving a pension (38,4% vs. 2,6%); and rate of out of school children (2,3% vs. 1%). As for 2018, 17.6% of women aged 15-49 years reported that they had been subject to physical and/or sexual violence by a current or former intimate partner in the previous 12 months.

World Bank data shows that since 2010, female labor force participation has decreased: for 2021 it amounted 14.4% for women against 68,1% for men[16]. At the same time, more women than men are employed in agriculture (18,8% vs. 17,1%), which also makes them more vulnerable faced with climate change and natural hazards.

- ***Republic of Azerbaijan***

The Republic of Azerbaijan is ranked globally 100 out of 156 countries, and 23 out of 26 in its region with a Gender Gap score of 68,8%. In the area of Political Empowerment, in the Republic of Azerbaijan, there are no women in ministerial positions. Women candidates have been increasingly successful at the municipal level in recent years.

The Republic of Azerbaijan has passed national laws, policies, institutions, and international commitments on gender quality. The Constitution of the Republic of Azerbaijan (12 November 1995) prohibits discrimination based on sex and states that the rights of husband and wife are equal. The Republic of Azerbaijan has signed international conventions on gender equality and passed a Law on State Guarantees of Equal Rights for Women and Men in 2006 that set the legal foundation for gender equality. Gender equality goals were articulated in recent national development policies, and in economic strategies. A national body for gender equality—the State Committee for Family, Women and Children Affairs—is active in mainstreaming gender into state policies, programs, and laws and in developing information systems for gender-related monitoring.

Selected Development Indicators for Men and Women below:

SELECTED CONTEXTUAL DATA — Azerbaijan 100/156

General indicators	Female	Male	Value
GDP, US$ billions	-	-	41.67
GDP per capita, constant '17 intl. $ 1000	-	-	13.72
Total population, million people	5.03	5.02	10.05
Population growth rate, %	0.92	1.07	0.98
Population sex ratio (female/male), female/male ratio	50.08	49.92	1

Work participation and leadership	Female	Male	Value
Labour force, million people	2.51	2.63	0.49
Unemployed adults, % of labour force (15-64)	5.75	4.08	1.41
Workers employed part-time, % of employed people	24.1	15.03	1.6
Gender pay gap (OECD only), %	n/a	n/a	n/a
Proportion of unpaid work per day, female/male ratio	-	-	2.68
Advancement of women to leadership roles, 1-7 (best	-	-	5.47
Gender parity in tech roles, 1-7 (best)	-	-	5.61
Boards of listed companies,% board members	n/a	n/a	n/a
Firms with female majority ownership, % firms	15.3	84.7	0.18
Firms with female top managers, % firms	16.5	83.5	0.2
Share of workers in informal sector, % workers	n/a	n/a	n/a

Civil and political freedom	Female	Male	Value
Year women received right to vote –	-	-	1918
Number of female heads of state to date	-	-	0
Election list quotas for women, national, yes/no	n/a	n/a	n/a
Party membership quotas, voluntary, Yes/no	n/a	n/a	n/a
Seats held in upper house,% total seats	n/a	n/a	n/a
Right to equal justice, 0-1 (worst)	-	-	0.25
Right to travel outside the country, 0-1 (worst)	-	-	0

COUNTRY SCORE CARD

Economic participation and opportunity	Rank	Score	Female	Male	F/M
Labour force participation rate, %	36	0.748			
Wage equality for similar work, 1-7 (best)	21	0.932	69.5	74.6	0.93
Estimated earned income, int'l $ 1,000	17	0.764	-	-	5.35
Legislators, senior officials and managers, %	107	0.549	10.3	18.7	0.55
Professional and technical workers, %	58	0.558	35.8	64.2	0.56
	1	1	58.1	42	1.38

Educational attainment	Rank	Score	Female	Male	F/M
Literacy rate, %	62	0.996			
Enrolment in primary education, %	57	0.999	99.7	99.9	1
Enrolment in secondary education, %	96	0.996	92.3	92.6	1
Enrolment in tertiary education, %	110	0.992	88.2	88.9	0.99
	1	1	29.7	25.9	1.15

Health and survival	Rank	Score	Female	Male	F/M
Sex ratio at birth, %	154	0.939			
Healthy life expectancy, years	155	0.89	-	-	0.89
	59	1.05	65.2	62.1	1.05

Political empowerment	Rank	Score	Female	Male	F/M
Women in parliament , %	141	0.069			
Women in ministerial positions, %	111	0.222	18.2	81.8	0.22
Years with female/male head of state (last 50)	148	0	0	100	0
	76	0	0	50	0

According to UN Women, the Republic of Azerbaijan faces women political underrepresentation (only 18.2% of seats in parliament and 35% in local government), gender gap in time on unpaid care and domestic work (2.85 times more for women) and lack of comparable methodologies for regular monitoring in key areas, such as gender and poverty, physical and sexual harassment, women's access to assets (including land), and gender and the environment. As of 2020, only 50,8 % of SDG monitoring indicators were available, in the absence of crucial once, such as the gender pay gap and other essential labour market indicators[17]. The following indicators also show slightly higher performance for women: unemployment rate (5,7% vs. 4% for men); prevalence of severe food insecurity in the adult population (8,8% vs. 8,7%) and rate of out of school children (2,5% vs. 2%). As for 2018, 5.2% of women aged 15-49 years reported that they had been subject to physical and/ or sexual violence by a current or former intimate partner in the previous 12 months.

World Bank data shows that since 1990, female labor force participation has decreased: for 2021 it amounted 60.4% for women against 67,3% for men. In particular, vulnerable employment for females has worsened in the Republic of Azerbaijan since 1991: vulnerable employment among women is 62.3% and among men is 46.6% in the Republic of Azerbaijan for 2019[18]. As for 2018, women constituted only 16% of business owners in the Republic of Azerbaijan. At the same time, more women than men are employed in agriculture (41,8% vs. 30,6%), which also makes them more vulnerable faced with climate change and natural hazards. Also, in 2022 Committee on the Elimination of Discrimination against Women (CEDAW) in its Concluding observations on the sixth periodic report of the Republic of Azerbaijan noted "the limited access of rural women and girls to basic services, land, education and employment

[15] UN Women Data Portal: https://data.unwomen.org/country/iran-islamic-republic-of
[16] World Bank Gender Data Portal: https://genderdata.worldbank.org/countries/iran-islamic-rep
[17] UN Women Data Portal: https://data.unwomen.org/country/azerbaijan
[18] World Bank Gender Data Portal: https://genderdata.worldbank.org/countries/azerbaijan

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opportunities and health care"[19]. It also expressed concerns regarding the lack of a gender perspective in agricultural policies and the underrepresentation of rural women in decision-making and in leadership positions. CEDAW also noted intersectional character of discrimination towards women and girls belonging to ethnic minority groups, internally displaced women and girls, and refugee, asylum-seeking and migrant women and girls.

- ***Women and Climate Change***

There is an emerging body of evidence that women and children face greater vulnerability to climate change than men, as a result of greater sensitivity and lower adaptive capacity. In terms of sensitivity, women are less likely to work in the formal sector and more likely to work in or around the home (often doing unpaid or informal work). Low levels of women's labour force participation are an important driver of lack of economic participation. The difference between average participation rate in the labour market with a 18.9% for the Islamic Republic of Iran is notable and must be taken into consideration for the project.

Educational outcomes, which serve as one of the main proxies for adaptive capacities, remain lower for women than for men, so does income and earning potential, another important proxy for adaptive capacity. In the Islamic Republic of Iran, women are twice as likely to be employed only part-time, and more likely to participate in non-monetarily retributed labour related to household activities. In the Republic of Azerbaijan, according to the Swiss Cooperation Office and the United Nations Development Programme (2018), women spend a large share of their time and energy for household responsibilities and this is not altered if a woman engages in income-generating activities. At the same time, men are most often designated as household heads. On average, women allocate 6 hours per day for unpaid labor while men allocate only 2 hours, and differences in increased workload are greater for rural women. This difference in time allocation for paid work is economically disadvantageous for women. Meanwhile, women working in the private sector, which suggests better financial conditions, also enjoy lesser benefits, particularly working mothers who choose lower-paid public jobs to allow them to combine domestic tasks with their work duties. Based on the same report, when it comes to getting promotions, women are at a disadvantage compared to men colleagues, as their chances to enroll in after-work professional education and networking are also slim.

Another important adaptive capacity related issue is the representation of men and women in the government. In the Islamic Republic of Iran only 5.6% of lower-house members are women. In the case of the Republic of Azerbaijan, there is no female representation at the ministerial level. Women are present in the civil service but are underrepresented at all levels, especially senior levels. Women are also underrepresented in judicial positions. To increase women's participation in decision-making, key measures toward greater decentralization at the municipal levels, more efforts to draw women into national politics, and a proactive approach to increase women's representation in senior civil service positions and the judiciary will be needed.

- ***Influence of the Gender Assessment on the project design.***

The summary of the project's gender action plan can be found below. Given the low levels of women's representation in government, the target/indicators for government participation percentages are adjusted to reflect this gap. However, at the regional level and in terms of consultations and beneficiaries, it is possible to attain gender parity.

Project Components	Outcome	Outputs	Activities	Indicator/ Target	Responsible Party
1. Climate change adaptation planning at the Caspian Sea regional level	Outcome 1: Regional level decision makers in the Caspian Sea region are enabled to define enhanced strategies at the regional and national level aligned with the normative frameworks, urban development and national climate adaptation priorities	Output 1.1: Data and knowledge on climate change risks and vulnerability for the Caspian Sea collected and shared at the regional level among the five Caspian Sea littoral states	Discussions with the regional stakeholders from 5 Caspian Sea countries are gender equal and disaggregated.	At least 50% of the participants are women. Workshop complete with records documenting equal participation from men and women	UNEP
			Workshops with the regional stakeholders from 5 Caspian Sea countries are gender equal and disaggregated, 5 female officials included in the trainings.	At least 50% of the participants are women. Workshop complete with records documenting equal participation from men and women	UNEP
		Output 1.2 Technical capacity of the Tehran Convention Interim Secretariat to address land-based pollution and urbanization in the context of climate adaptation strengthened	Trainings and workshops to enhance the capacity of the TCS Secretariat are gender equal and disaggregated.	At least 50% of the participants are women. Trainings and workshops complete with records documenting equal participation from men and women	UNEP
		Output 1.3: Guidelines and recommendations developed for climate change adaptation coordination, planning and management and strategies between the five Caspian Sea littoral countries	Regional workshops with key regional, national and municipal stakeholders as well as decision makers are gender equal and disaggregated. 5 female officials included to the ICZM Working Groups.	At least 50% of the participants are women Workshop complete with records documenting equal participation from men and women.	UNEP
			Developed regional recommendations will fully consider the differentiated risks and vulnerabilities of women, their adaptation options and potential and outline proposed actions that specifically benefit women	Developed regional recommendations include comprehensive analysis of the differentiated risks and vulnerabilities of women, and adaptation options that benefit them	UNEP
2. Climate change adaptation planning at national level in the Republic of Azerbaijan and the Islamic Republic of Iran	**Outcome 2:** Improved capacity to plan for, respond and finance climate change adaptation measures to address sea-level fluctuation, droughts, heat waves, and floods in the Republic of Azerbaijan and the Islamic Republic of Iran.	**Output 2.1:** Strengthened national-and local level capacities in the Republic of Azerbaijan and the Islamic Republic of Iran to develop and finance plans and measures to address climate change and disaster related risks and impacts for greater local community resilience especially to sea-level fluctuation, droughts, heat waves, and floods.	Trainings and workshops to build national and local capacity on planning and financing adaptation measures are gender disaggregated and representative of the gender balance in the government	At least 30% of the participants are women. Trainings and workshops complete with records documenting gender disaggregated participation.	UN-Habitat
		Output 2.2: Knowledge is developed and captured from the project implementation and disseminated to local and national stakeholders, focusing on public awareness and education about climate risks, especially water scarcity and use	Developed communication products and studies will fully consider the differentiated risks and vulnerabilities of women and girls, their adaptation options and outline proposed actions that specifically benefit women and girls	Developed communication products and studies include comprehensive analysis of the differentiated risks and vulnerabilities of women, and adaptation options that benefit them	UN-Habitat

[19] CEDAW. Concluding observations on the sixth periodic report of Azerbaijan file:///C:/Users/Christina%20Russkikh/OneDrive%20-%20United%20Nations/UNEP/February/AF%20Caspian%20Sea/N2242045.pdf

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3. Implementation of transformative and catalytic projects at city and community levels, addressing urban resilience and climate change adaptation	**Outcome 3:** Increased resilience of men and women, especially key target communities, ecosystems and infrastructure assets to the impacts of climate change in the seven target communities	**Output 3.1** Reduced heat risk through a demonstration greening corridor and development of investment planning for further projects in Baku	Consultations are gender equal and gender disaggregated to ensure that green space design benefits women and girls equally	45-55% of consultation participants are women. Trainings and workshops complete with records documenting gender disaggregated participation 45-55% of people who receive information on drought, salinization and flooding from the EWS are women	IOM
		Output 3.2 Enhanced Early Warning System for sea level fluctuation, drought, flooding and salinization based on advanced hydro-meteorological data and urban development plans in Neftchala (Republic of Azerbaijan)	Recipients of information are gender equal and gender disaggregated		IOM
		Output 3.3 Improved water security and management to reduce drought risk through demonstrated rainwater harvesting technology and advancing costed integrated water management plans in Astara (Republic of Azerbaijan)	The costed integrated water management plan will fully consider the differentiated risks and vulnerabilities of women and girls, their adaptation options and outline proposed actions that specifically benefit women and girls	Developed integrated water management plan includes comprehensive analysis of the differentiated risks and vulnerabilities of women, and adaptation options that benefit them	IOM
		Output 3.4 Improved water security and management to reduce drought risk through demonstrated rainwater harvesting technology and advancing costed integrated water management plans in Astara (Islamic Republic of Iran)	Gender disaggregated household data for rainwater harvesting technology	Female and male headed households benefit from rainwater harvesting technology	UN-Habitat
		Output 3.5 Establish Early Warning System for sea level fluctuation, drought, flooding and salinization based on advanced hydro-meteorological data and urban development plans in Bandar-e-Kiashahr (Islamic Republic of Iran)	Recipients of information are gender equal and gender disaggregated	45-55% of people who receive information on drought, salinization and flooding from the EWS are women	UN-Habitat
		Output 3.6 Reduced flooding and drought risk and improved water management as a result of a stormwater drainage system demonstration site inside the city and advancing costed integrated water management plans in Mahmoudabad (Islamic Republic of Iran)	Gender disaggregated household data for stormwater drainage	Female and male headed households benefit from stormwater drainage system	UN-Habitat
		Output 3.7 Establish Early Warning System for sea level fluctuation, drought, flooding and salinization based on advanced hydro-meteorological data and urban development plans in Bandar-e-Torkaman (Islamic Republic of Iran)	Recipients of information are gender equal and gender disaggregated	45-55% of people who receive information on drought, salinization and flooding from the EWS are women	UN-Habitat
4: Urban resilience, climate change adaptation – partnerships, institutional, legal, research cooperation and knowledge	**Outcome 4:** Coordination and knowledge sharing of data, information and capacity through the Tehran Conventions for scaling up direct, local climate action in the Caspian Sea Region	**Output 4.1** Knowledge and data collected on local climate adaptation action and disseminated to the regional community through an online platform, scientific conferences and scientific collaboration and public awareness raising efforts	2 regional scientific conferences are gender equal and disaggregated.	At least 50% of the participants are women. Conferences complete with records documenting equal participation from men and women	UNEP
			Campaign materials for the Caspian Sea Day for public awareness purposes will also target women and will be distributed through the channels that women have access to.	At least 3 of the knowledge products will have a focus on the adaptation priorities and actions of women	UNEP
			2 annual events with participation of regional stakeholders on new web-platform for collection, disseminating and exchange of information and knowledge and information services (Clearing House) are gender equal and disaggregated.	At least 50% of the participants are women. Events complete with records documenting equal participation from men and women	UNEP
			3 capacity building workshops for the National Environmental Information Officers are gender equal and disaggregated.	At least 50% of the participants are women. Workshops complete with records documenting equal participation from men and women	UNEP
		Output 4.2 Scaling up of direct local level climate adaptation action in the Caspian Sea region through the development of a trust fund to finalize small-scale and micro-grant projects.	Involvement of women in capacity building events on trust fund development	At least 50% of the participants are women. Trainings complete with records documenting equal participation from men and women	UNEP

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Project implementation

UN-Habitat aims to have a gender responsive and adaptable management approach in place which, when needed, allows adjustment based on learning from earlier decisions and interventions and received feedback. This is done through having gender expertise and focal points in place, whom should identify challenges, barriers or restrictions that arise during project/programme implementation, which might hinder the equal participation of men and women in activities.

Capacities of execution entities will be built so they are able to provide gender mainstreaming inputs and identify any challenges that arise during project/programme implementation, which might hinder the equal participation of men and women in activities. This requires appointing a gender focal point and having quota targets for women and youth participation in project activities. Gender focal points from the government will be part of the steering committees. Gender monitoring has also been included in the investment sheets in the Islamic Republic of Iran as well as in the studies in both countries to improve gender mainstreaming and women's empowerment.

Performance Monitoring and Evaluation

The gender responsive management approach includes gender responsive monitoring and evaluation, which is participatory and where 'gender disaggregated data' will be collected and analyzed. Where possible, women and youth will be encouraged to participate in monitoring activities.

Knowledge Management, Information Sharing and Reporting

UN-Habitat aims to have a gender responsive knowledge management approach in place, where specific gender considerations are highlighted through reporting on the project/programme's commitment to gender equality and women's empowerment in all outreach, communication and information sharing efforts.

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