

Annex 5: Climate Change Analysis

This analysis¹ and screening draws upon the DOs and IRs, as outlined in the Results Framework for USAID/Azerbaijan. The USAID E&E Bureau Environmental Officer (BEO) and USAID environmental consultant advised the Mission on the CRM process using USAID's Climate Risk Screening and Management Tool. The BEO facilitated discussions with technical office staff and program office staff to review findings in the initial screening on October 21-November 2. The CRM reflects current and future programming priorities. Primary sources of climate information included the Azerbaijan Climate Risk Profile and the Azerbaijan GHG Emissions Factsheet.

The Climate Risk Screening and Management Tool includes an estimate of the severity of risks. For risks rated as Moderate or High, the screening also explores opportunities, risk management. The table covers both climate risk management (Tab 1) and greenhouse gas (GHG) mitigation (Tab 2).

STRATEGY CRM TOOL OUTPUT MATRIX, PART 1: CLIMATE RISK - Azerbaijan

Items marked with * are required, according to the Mandatory Reference

| I.1: Defined or Anticipated DOs, IRs, or sectors* | I.2: Time Frame* | I.3: Category | 2: Climate Risks* | 3: Adaptive Capacity* | 4: Climate Risk Rating |
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| I. Azerbaijan's Society is More Capable and Engaged | | | | | |
| I.1 Increased engagement between citizens and government to address critical needs | | | | | |
| I.1.1 Capacity of citizens and citizen groups to engage government increased Currently: SEDA, ECSOFT, TOP | 10 years | Community | <ul style="list-style-type: none"> -potential increase in political instability resulting from disenfranchised populations impacted by extreme weather events -increased potential for rural-urban migration due to decreased crop yield due to weather extremes and shifting climatic patterns -possible weaknesses in CSOs and increased political instability due to extreme weather events | <ul style="list-style-type: none"> -government is very restrictive towards civil society, but increasingly sensitive to recent political unrest in surrounding countries -start of grass root organizations -recent commitment to reduce GHG by 30% by 2030 and ratification of Paris Accord and resources to do so | Low |

¹ Developed by Mark Kamiya, BEO and Jeffrey Ploetz, USAID Consultant.

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| | | | <ul style="list-style-type: none"> -lack of water and corrupt water management will likely be exacerbated by climate change -impacts to implementation of in-person trainings, meetings, events and capacity building activities due to extreme weather events -infrastructure projects vulnerable to increased flooding, landslides, earthquakes | <ul style="list-style-type: none"> -National Academy of Science active in CC research -Central government has resources and capacity to respond to disasters -CSOs not presently engaged in Climate Change | |
| <p>I.1.2 Ability of select government entities to engage with citizens enhanced</p> <p>Currently:ECSO FT</p> | 10 years | C | <ul style="list-style-type: none"> -Impacts to implementation of in-person trainings, meetings, events and capacity building activities due to extreme weather events -limited government knowledge and capacity to inform citizenry about climate change -Government ability to effectively engage with citizens stalled, delayed, or overtaken by the need to respond to extreme weather events and disasters | <ul style="list-style-type: none"> -government more open to citizen engagement -recent commitment to reduce GHG by 30% by 2030 and ratification of Paris Accord and resources to do so -National Academy of Science active in CC research -Central government has resources and capacity to respond to disasters | Low |
| <p>I.1.3 Supply of high quality independent information in the public interest increased</p> <p>Currently: MSA</p> | 10 years | C | <ul style="list-style-type: none"> -extreme climate may disrupt communications, access to social media, etc. -Impacts to implementation of in-person trainings, meetings, events and capacity building activities due to extreme weather events | <ul style="list-style-type: none"> -citizenry is becoming more vocal and government more open to dialogue -New Social Services, such as Youth houses, SMB centers provide an avenue for information dissemination - Academics are involved in studying the impacts of CC - Limited government media capacity to cover impacts from climate events - Strong social media and internet based independent media capable of information dissemination | Low |
| I.2 Vulnerable citizens' needs addressed | | | | | |
| I.2.1 Rural livelihoods improved | 5-10 | C | <ul style="list-style-type: none"> -Residents and livelihoods of flood prone areas at greater risk due to increased frequency of floods | <ul style="list-style-type: none"> -ag is a priority sector for the government | High |

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| <p>Currently: SEDA C-TIP PAR</p> | <p>years</p> | <p>national</p> | <ul style="list-style-type: none"> -Increased potential for rural-urban migration due to decreased crop yield resulting from climate change -Access to water for small farmers will be an increasing source of pressure -Increased opportunity for and susceptibility to disenfranchisement due to impacts from extreme weather events and perceived government response -Impacts to implementation of in-person trainings, meetings, events and capacity building activities due to extreme weather events -economic losses/stress increases risk of trafficking, forced labor, gender-based violence and susceptibility for radicalization -Potential impact to tourism sector and related services -Access to market and market infrastructure being negatively impacted due to landslides, floods, etc. | <ul style="list-style-type: none"> -regional governments are encouraged to improve livelihoods -government has funds to provide crop insurance -government has funds and capacity to develop (and implement) CC mitigation and adaptation plans -currently, lack of political will relevant to CC -citizenry is becoming more vocal and government more open to dialogue -government supported youth houses provide an avenue for information dissemination and locations for "eco clubs" -advancing women's economic participation is a government priority, across all sectors but lacking implementation -Small ag plots result in less resiliency for rural farmers | <p style="background-color: #f8d7da;"></p> |
| <p>I.2.2 Socio-economic opportunities increased</p> <p>Currently: SEDA, PAR</p> | <p>5-10 years</p> | <p>Community</p> | <ul style="list-style-type: none"> -Residents and livelihoods of flood prone areas at greater risk due increased frequency of floods -Increased potential for rural-urban migration due to decreased crop yield resulting from climate change -Access to water for small farmers will be an increasing source of pressure -Increased opportunity for and susceptibility to disenfranchisement due to impacts from extreme weather events and perceived government response -Impacts to implementation of in-person trainings, meetings, events and capacity building activities due to extreme weather events -economic losses/stress increases risk of trafficking, forced labor, | <ul style="list-style-type: none"> -government programs exist to support rural farmers but lack the perspective to consider climate change -existing programs for revegetation to control erosion, but focus is more on beautification, often using non-native species -Small ag plots result in less resiliency for rural farmers | <p style="background-color: #fff3cd;">Low</p> |
| <p>I.2.3 Economic capacity enhanced</p> | | | <ul style="list-style-type: none"> -Impacts to implementation of in-person trainings, meetings, events and capacity building activities due to extreme weather events -economic losses/stress increases risk of trafficking, forced labor, | <ul style="list-style-type: none"> -government has funds to provide crop insurance -government has funds and capacity to develop CC mitigation and adaptation plans as well as implement them | <p style="background-color: #fff3cd;">Low</p> |

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| | | | <p>gender-based violence and susceptibility for radicalization</p> <ul style="list-style-type: none"> -rural residents at greater risk from climate impacts may be less willing to take economic risks to participate in the economy -potential for investments to be lost due to weather extremes | <ul style="list-style-type: none"> -currently, lack of political will do address CC -government builds women capacity to manage businesses -government encourages women to own property and title for lands to have direct access to loans -Small ag plots result in less resiliency for rural farmers | |
| 2. Azerbaijan's Economy is More Diverse and Durable | | | | | |
| 2.1 Competitiveness in targeted non-oil sectors Increased | | | | | |
| 2.1.1. Linkages to developed international markets increased Currently: PSA | 10 years | C | <ul style="list-style-type: none"> -Susceptible to climate stressors impacting quantity and quality of crops could impact market access. Varies by agricultural region and product. -Increased potential for rural-urban migration due to decreased crop yield resulting in insufficient workforce -Small ag plots result in less resiliency for rural farmers -Access to water for farmers will be an increasing source of pressure and may lead to conflicts -Climate impacts will reduce ability of producers to meet quality standards for certifications and export (i.e. impacts to hazelnuts) -Caspian Sea level fluctuates and projected to rise which will result in increased soil salinity of the low land soils -potential for impacts to ports due to shifting sea levels | <ul style="list-style-type: none"> -ag is a priority sector for the government -regional governments are encouraged to improve livelihoods -government has funds to provide crop insurance -government has funds and capacity to develop (and implement) CC mitigation and adaptation plans -currently, lack of political will relevant to CC -citizenry is becoming more vocal and government more open to dialogue -government supported youth houses provide an avenue for information dissemination and locations for "eco clubs" - MoA extension agents throughout the country for information dissemination and training | Low |
| 2.1.2 Increased investment in targeted value chains Currently: PSA | | | | | High |
| 2.2 Enabling Environment for Private Investment Improved | | | | | |
| 2.2.1 Demand for improved business enabling | 10 years | C | <ul style="list-style-type: none"> -Lack of regulations and zoning may weaken targeted sectors resilience to climate stressors | <ul style="list-style-type: none"> -government has resources to develop and implement needed improvements to ensure resilient utility systems | Low |

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| environment increased Currently: PSA | | tr y w id e | -Utilities (water/wastewater, electricity, communications) required for business enabling environment are susceptible to climate extremes | | |
| 2.2.2 Accountability and Transparency systems bolstered Currently: PSA | 10 years | C o u n tr y w id e | -Lack of transparency does not reflect cost and risk of climate impacts to the citizens and economy | -government has a climate change framework, currently lacking implementation -centrally controlled media enables information dissemination -strong social media network enables independent information dissemination | Low |
| 2.2.3 Capacity of select public institutions improved Currently: PSA & ECSOFT | 10 years | C o u n tr y w id e | -Lack of regulations and zoning may weaken targeted sectors resilience to climate stressors -Utilities (water/wastewater, electricity, communications) required for business enabling environment are susceptible to climate extremes | -government has resources to develop and implement needed improvements | Low |
| 3. Special Objective: Dialogue Advances Mutual Commitment on Development and Foreign Policy Goals | | | | | |
| 3.1 GOAZ invests in and implements socio-economic reform | 10 years | C o u n tr y w id e | N/A | -government has resources to develop and implement needed improvements | Low |
| 3.2 Private Sector invests in Azerbaijan and advocates for reform | 10 years | C o u n tr y w | N/A | -government has resources to develop and implement needed improvements | Low |

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| | | id e | | | |
| 3.3 Harness interagency and donor support to overcome development obstacles | 10 years | C o u n t r y w i d e | N/A | -government has resources to develop and implement needed improvements | Low |

| 5: Opportunities | 6.1: Climate Risk Management Options | 6.2: How Climate Risks Are Addressed in the Strategy* | 7: Next Steps for Project and/or Activity Design* | 8: Accepted Climate Risks* |
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| <ul style="list-style-type: none"> -work to support the development of grass root organizations -enhance capacity and networking skills of CSO to incorporate environmental issues as a cross-cutting issue into their programming -Climate change may be a unifying issue for CSOs to bring disparate groups together -work to enhance capacity of government, as requested, to respond/plan for climate change adaptation -Use international climate change studies and Azerbaijan national climate change plans to encourage adoption/implementation of policies, laws, and regulations -encourage community-based organizations to prepare and implement climate change adaptation planning -encourage central government emergency planning and response for climate related disasters (floods, droughts, forest fires, landslides) | <ul style="list-style-type: none"> -Integrate climate information and support for adaptation strategies into CSO programming to consider/stimulate climate resiliency -In project design use international climate change studies and Azerbaijan national climate change plans to encourage adoption/implementation of policies, laws, and regulations -Consider and address potential impacts to infrastructure services (e.g., siting, access) | <ul style="list-style-type: none"> -While rating is low, climatic risks vary across the country and will be considered during project and activity design | <ul style="list-style-type: none"> -Project will consider listed opportunities and climate risk management options considering geographic differences | N/A |
| <ul style="list-style-type: none"> -encourage government to improve land use planning and address corruption to prevent building in floodplains and unstable slopes -encourage government to adopt climate smart ag, erosion control, wind breaks, and continued reforestation | <ul style="list-style-type: none"> -Open dialogue with government to integrate climate adaptation into state run programs and to encourage adoption/implementation of related policies, laws, and regulations | <ul style="list-style-type: none"> -leverage improved USAID and Ministry relationship to open the dialogue | <ul style="list-style-type: none"> -Project will consider government implementation of climate change plans, adaptation initiatives to build support for adoption. | N/A |

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| <ul style="list-style-type: none"> -encourage government to promote restorative pasture management to mitigate erosion concerns -encourage government to improve water use planning -encourage government to establish farmer cooperatives and water users' associations -leverage MoAG and MENR relationships to integrate climate adaptation and mitigation in the Ag sector | <ul style="list-style-type: none"> -Encourage Ministries and other institutions to consider, study, and reduce impacts of flooding, drought, etc. | | | |
| <ul style="list-style-type: none"> -work with independent media to cover climate change and impacts to rural communities -sponsor town halls to inform citizens of potential impacts of climate change and low-cost adaptation measure they can undertake -encourage government engagement with its citizens on Climate Change, particularly citizens that are marginalized and/or vulnerable | N/A | <ul style="list-style-type: none"> -While rating is low, climatic risks vary across the country and will be considered during project and activity design | <ul style="list-style-type: none"> -Project will consider government implementation of climate change plans, adaptation initiatives to build support for adoption. | N/A |
| <ul style="list-style-type: none"> -improved land use planning to prevent building in floodplains -adoption of climate smart ag, erosion control -restorative pasture management to mitigate erosion concerns -improve water use planning -establish farmer cooperatives and water users' associations -leverage MoAG and MoE relationships to integrate climate adaptation into ag sector support -encourage government to develop crop insurance policy -provide business incubation, focused on women in sectors | <ul style="list-style-type: none"> -provide TA to educate stakeholders about climate change risk and need for adaptation planning -use grant / pilot programs to enhance people's understanding of climate risk and approaches to adaptation for climate smart ag and water use | <ul style="list-style-type: none"> -Climate risks will be considered during activity design and incorporated into TA and grants to enhance rural livelihoods and adaptive capacity | <ul style="list-style-type: none"> -Project will consider listed opportunities and climate risk management options considering geographic differences | YES |

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| that are resistant to impacts of climate change | | | | |
| <ul style="list-style-type: none"> -leverage national priorities to decrease rural out migration through integration of climate smart ag -leverage national priorities to decrease susceptibility to radicalization and violent extremism -leverage national priorities to improve livelihoods and increase community resilience to vulnerabilities | <ul style="list-style-type: none"> -provide TA to educate stakeholders about climate change risk and need for adaptation planning -use grant / pilot programs to enhance people's understanding of climate risk and approaches to adaptation for climate smart ag and water use | <ul style="list-style-type: none"> -Climate risks will be considered during activity design and incorporated into TA and grants to enhance rural livelihoods and adaptive capacity | <ul style="list-style-type: none"> -Project will consider listed opportunities and climate risk management options considering geographic differences | N/A |
| <ul style="list-style-type: none"> -work with the GOAZ to raise awareness and share best practices of adaptation and mitigation of CC -work with the GOAZ to consider offering crop insurance to mitigate losses and reduce rural-urban migration | <ul style="list-style-type: none"> Use the Special Objective to begin dialogue with GOAZ on the consequence of CC | <ul style="list-style-type: none"> Engagement with the GoAZ through the Special Objective and integrated approach to the DOs | <ul style="list-style-type: none"> -Project will consider listed opportunities and climate risk management options considering geographic differences | N/A |
| <ul style="list-style-type: none"> -incorporate energy efficiency in small scale infrastructure and SME support, linking back to government GHG reduction targets -transitioning from flood irrigation to modern techniques (drip, pivot, traveling gun, etc.) -establishment of greenhouse production in lowlands on raised beds -focus on regional products for export that are resistant to climate change impacts based on production zones -use existing demonstration plots to introduce new | <ul style="list-style-type: none"> -Consider how climate information and support for adaptation strategies could be integrated into improved governance to stimulate climate resilience | <ul style="list-style-type: none"> -Climate risks will be considered during activity design and incorporated into TA and grants to enhance rural livelihoods and adaptive capacity | <ul style="list-style-type: none"> -Project will consider listed opportunities and climate risk management options | N/A |

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| <p>techniques to increase resilience to climate change within the ag sector</p> | | | | |
| <ul style="list-style-type: none"> -improved land use planning to prevent building in floodplains -adoption of climate smart ag, erosion control -restorative pasture management to mitigate erosion concerns -improve water use planning -establish farmer cooperatives and water users' associations -leverage MoAG and MoE relationships to integrate climate adaptation into ag sector support -encourage government to develop crop insurance policy -explore innovations for decreasing soil salinity and methods for decreasing saline water withdrawal/channeling -use transboundary Caspian Sea Water treaty to implement reforms | <ul style="list-style-type: none"> -provide TA to educate stakeholders about climate change risk and need for adaptation planning -use grant / pilot programs to enhance people's understanding of climate risk and approaches to adaptation for climate smart ag and water use | | <ul style="list-style-type: none"> -Project will consider listed opportunities and climate risk management options | <p>YES</p> |
| <ul style="list-style-type: none"> -improved land use planning to mitigate climate risks -strengthen water utilities ability to adapt to decreased water supply and improve financial management -encourage government to develop crop insurance policy -explore innovations for decreasing soil salinity and methods for decreasing saline water withdrawal/channeling -use transboundary Caspian Sea Water treaty to implement reforms | <ul style="list-style-type: none"> -promote linkages between Central government and Rayons to promote climate smart business development | <ul style="list-style-type: none"> -Climate risks will be considered during activity design and incorporated into TA and grants to enhance rural livelihoods and adaptive capacity | <ul style="list-style-type: none"> -Project will consider listed opportunities and climate risk management options | |

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| -work with social media to promote transparency and educate public as to the risks posed by climate change -leverage AZAD centers to increase services to include areas of climate risk, such as water usage | -integrate climate risk information through IP programs | -Climate risks will be considered during activity design and incorporated into TA and grants to enhance rural livelihoods and adaptive capacity | -Project will consider listed opportunities and climate risk management options | N/A |
| -work with the GOAZ to raise awareness and share best practices of adaptation and mitigation of CC | -promote linkages between Central Government and Rayons to promote climate resiliency into planning | -Climate risks will be considered during activity design and incorporated into TA and grants to enhance rural livelihoods and adaptive capacity | -Project will consider listed opportunities and climate risk management options | N/A |
| -Use international climate change studies and Azerbaijan national climate change plans to encourage adoption/implementation of policies, laws, and regulations | N/A | N/A | N/A | N/A |
| -Use international climate change studies and Azerbaijan national climate change plans to encourage adoption/implementation of policies, laws, and regulations | N/A | N/A | N/A | N/A |
| -Use international climate change studies and Azerbaijan national climate change plans to encourage adoption/implementation of policies, laws, and regulations | N/A | N/A | N/A | N/A |

STRATEGY CRM TOOL OUTPUT MATRIX, PART 2 - GREENHOUSE GAS MITIGATION

* = required element, according to the Mandatory Reference

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| <p>5.2a</p> | <ul style="list-style-type: none"> • What are the major sources of greenhouse gas (GHG) emissions? • How has the distribution and composition of the GHG emissions profile changed over time historically, and how is the profile expected to change in the future considering the major emitting sectors and/or sources? • How are the sectors and sources that contribute to GHG emissions contributing to the growth and development of the economy and to meeting development objectives? • What climate change mitigation or low-emission development plans, targets, commitments and priorities has the government (national, state, and local) articulated? | <p>The major source of GHGs are the oil and gas industry, industry and transportation, and agriculture. The distribution has not changed significantly and is expected to not change significantly although there are plans to decrease GHG with a target of 30% by 2030. There are some solar and wind installations in the country so there is some experience. The oil and gas industry provide ~65% of the country's revenue. There is an opportunity to move into electric transportation to reduce GHGs.</p> <p>Azerbaijan Government relevant actions:</p> <ul style="list-style-type: none"> -Installation of pilot projects of biogas facilities in four regions to raise public awareness -Reforestation programs -Strategy for Development of Renewable and Alternative Energy Sources in 2012-2020 -Strategy for Renewable Energy for 2015-2030 -GoA applies tax incentives to support the use of RES -GoA commitment to reduce GHG emissions by 30% by 2030 over 1990/base year |
| <p>5.2b</p> | <ul style="list-style-type: none"> • Which of these sectors is USAID planning to program in? • What opportunities exist to reduce emissions in each DO, IR, or sector? • What opportunities exist to reduce emissions associated with USAID activities? | <p>Agriculture and SME development (light industry)</p> <p>Agriculture is the primary entry point for USAID programming relevant to mitigation of GHG. Existing and planned programs have the opportunity to promote climate smart ag and introduce mitigation measures such as planting windbreaks, low/no-till farming, and promoting soil health to reduce reliance on/need for application of fertilizers.</p> <p>Where USAID is involved in renovation activities, promoting green building practices, energy efficient equipment, and renewables (solar for example) provides an opportunity to raise awareness of how such interventions can have a positive impact to reduce GHG emissions</p> |
| <p>5.2c</p> | <p>Does the strategy incorporate ways to reduce GHGs? Reference the page number in the strategy. Note if the Goal, a DO, an IR, or sub-IR specifically incorporates mitigation.</p> | <p>The strategy has an element to diversify the economy away from oil which has the potential to reduce GHGs. This will be monitored as an opportunity when project and activities are designed.</p> |

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| 5.2d | <ul style="list-style-type: none">• What are the next steps in project and/or activity design to reduce GHGs? | The Mission will continue to have discussions with their partners on ways to incorporate climate considerations into their projects and activities. |
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