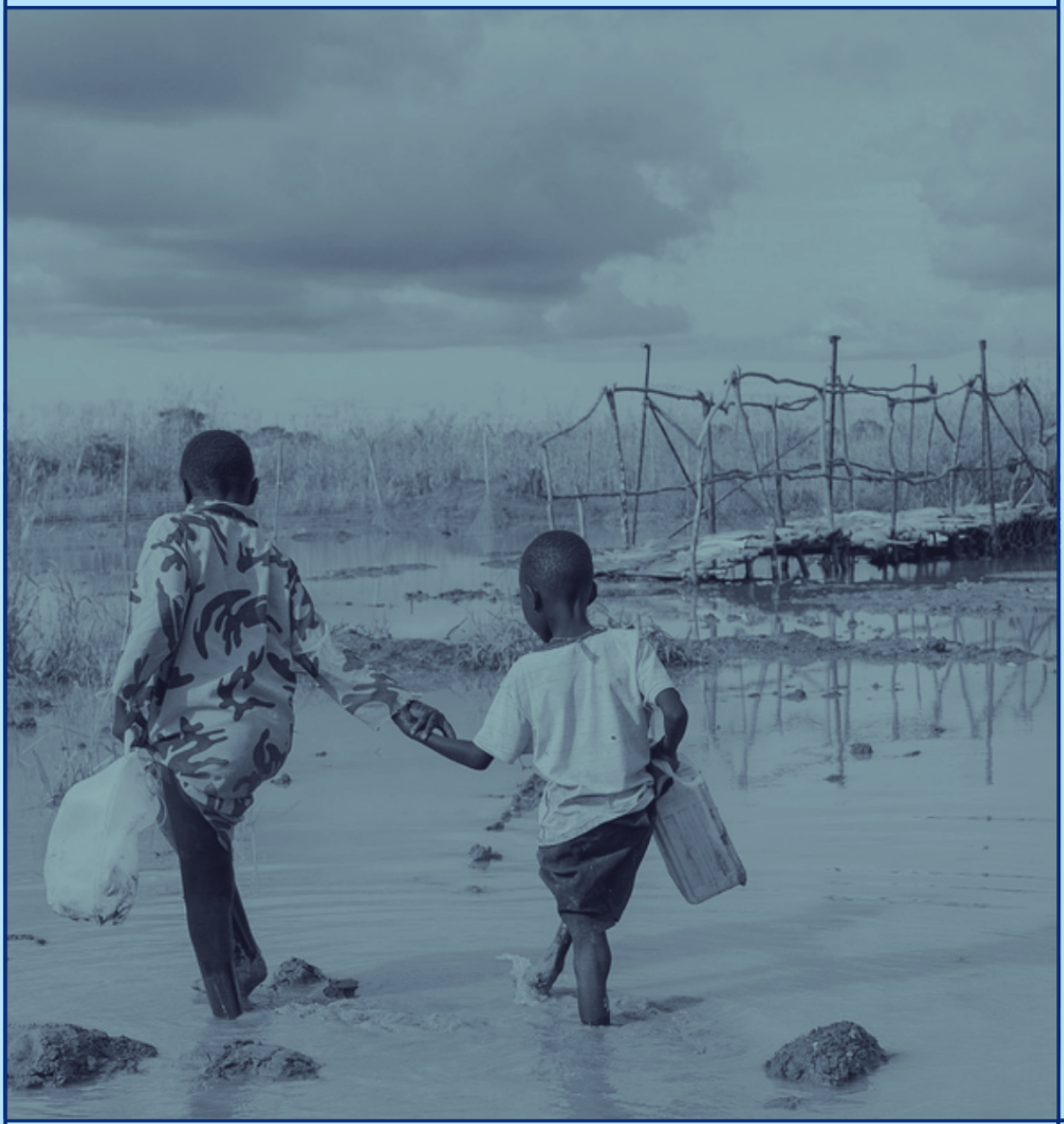
AFRICAN CLIMATE-BASED MIGRATION RESILIENCY



TECHNICAL REPORT

Prepared for the United States Department of State

Bureau for Population, Refugees, and Migration

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Executive Summary

Migration across the African continent is a reality. This report addresses steps to prevent potential crisis. As millions of young people seek improved employment opportunities, national economies transition into new sectors, and internal conflicts push communities from their home regions, total human movement will continue to rise for the foreseeable future. This report, however, specifically addresses climate change as a growing driver for displacement, as African weather conditions are changing at a rate faster than any in modern history; this emerging problem poses potential to disrupt food and water access, undermine economic opportunity, threaten government stability in countries either seeing population flight or mass arrivals, and create conflict. The United States Government's (USG) diplomacy strategy towards sub-Saharan Africa must immediately prioritize resiliency efforts as these pressures mount.

The White House released a new Strategy Towards sub-Saharan Africa in 2022, underlining the need for more coordination with African partners and more sustainable development partnerships in the near future. Addressing climate migration concerns will be a chief policy sphere for these new objectives to be implemented. These initiatives must further coordinate with the multinational African Union, its aligned regional economic communities, and African governments while devising proactive adaptation strategies. The United States Department Bureau for Population, Refugees, and Migration (PRM) will be a lead advocate for strengthening USG commitments for these efforts.

In this report, the author has evaluated four distinct policy options the client (PRM) could potentially promote as resiliency strategies across the Continent: open work/movement permissions; a USG grant credit system for climate resiliency; 'slum integration' infrastructure development; and a new Office for African Climate. These alternatives have been examined for their respective costs, effectiveness in addressing the problem,
and scalability/sustainability required for effective implementation. After analysis, the author recommends the client most strongly pursue innovating their grant program to concertedly address climate resiliency in funded projects with development partners. This policy alternative would have PRM, other State Department bureaus, and USAID institute a credit system with specified thresholds, aimed at building long-term socioeconomic stability in the context of climate migration, grant applicants must meet to receive contract funds.

Applied Policy Project Disclaimer

The author conducted this study as part of the program of professional education at the Frank Batten School of Leadership and Public Policy, University of Virginia. This paper is submitted in partial fulfillment of the course requirements for the Master of Public Policy degree. The judgments and conclusions are solely those of the author, and are not necessarily endorsed by the Batten School, by the University of Virginia, or by any other agency.

University of Virginia Honor Statement

On my honor as a student, I pledge that I have neither given nor received unauthorized aid on this assignment.

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Acknowledgements and Dedication

I would first like to thank the host of fellow classmates I have had the pleasure of working with during these two years at the Batten School. Whether spending our evenings writing reports, puzzling through problem sets and group projects, or enjoying one another's company in Charlottesville, it has been a joy to share this experience with you.

Second, I would be remiss without thanking Professors Benjamin Castleman and Noah Myung for their guidance in the research and crafting of this report. I sought to tackle a major geopolitical issue over the last year, and they were consistently available and engaged when issues arose.

I am grateful to Wilson Korol from the United States Department of Population, Refugees, and Migration for allowing me to undertake this research, guide my findings when needed, and providing feedback and resources to bring the most potential to this project.

Finally, to Dad. I isn't no author, but I'm glad I had one who was able to take a peek now and again.

This report is dedicated to Mary Jo Blonigan and Fabian Adrian Blonigan. MJ and FA Jack, I would not be here without you.

You were the wind always at my back. ☘

Problem Statement

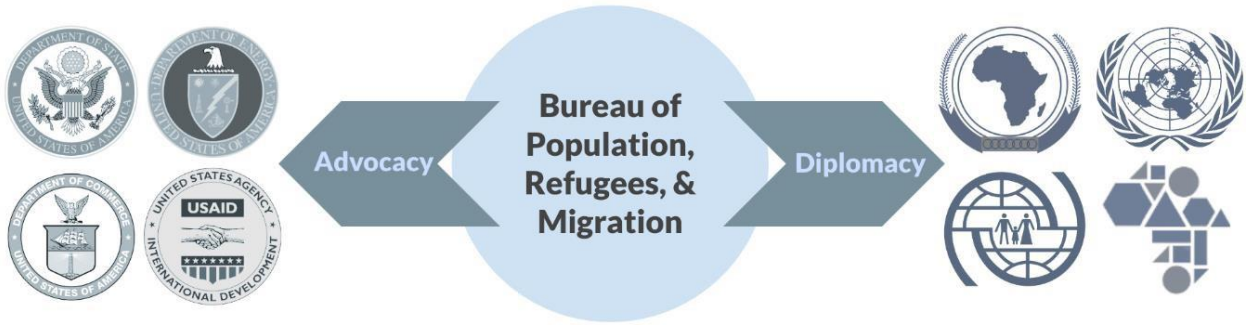
The World Bank projects 90 million Africans will be displaced by 2050 due to climate change caused socioeconomic challenges (Leggelo-Padilla & Toure, 2021). Yet, the United States Government's engagement strategies with the African Union, international partner organizations, and regional economic communities currently lack the needed long-term scoping of political security concerns African nations face from the growing crisis.

> African nations, who are key U.S. partners in development and security initiatives, are poised to face increased political fragility from mass population movement based in climate-created disruptions. The U.S. is interested in continental stability and promoting inclusive institutions; African regions with acute economic insecurity from this crisis pose complications to this mission, as opportunities to advance development goals and build value-added economic sectors are undercut by need to instead provide basic humanitarian services or security measures. This policy problem, if not given adequate long-term scoping and policy priority, will only exacerbate such frustrations towards advancement goals in the globe's fastest growing and most critical region.

Client Jurisdiction, Policy Ecosystem, and Standing Status

The U.S. State Department's Bureau of Population, Refugees, and Migration (PRM) works alongside global partners to mitigate stressors that displace populations, assist in humanitarian provision, and advocate for socioeconomic opportunity for migrants arriving in new communities. With offices dedicated to migration issues on all continents, PRM has supported institutional initiatives addressing the multiple causes and consequences of displacement, including internal political violence, foreign wars, failed states, and economic degradation. However, the growing climate crisis, with outsized impacts on Global South states in which PRM has previous experience, presents a multitude of new challenges.

Though PRM cannot directly provide funds to any official government initiative, its strongest capability is the agency to coordinate with any number of institutions working on related projects in Africa. PRM's Africa Office has standing relationships and expertise engaging with political, organizational, and fellow U.S. leaders promoting stability and economic advancement

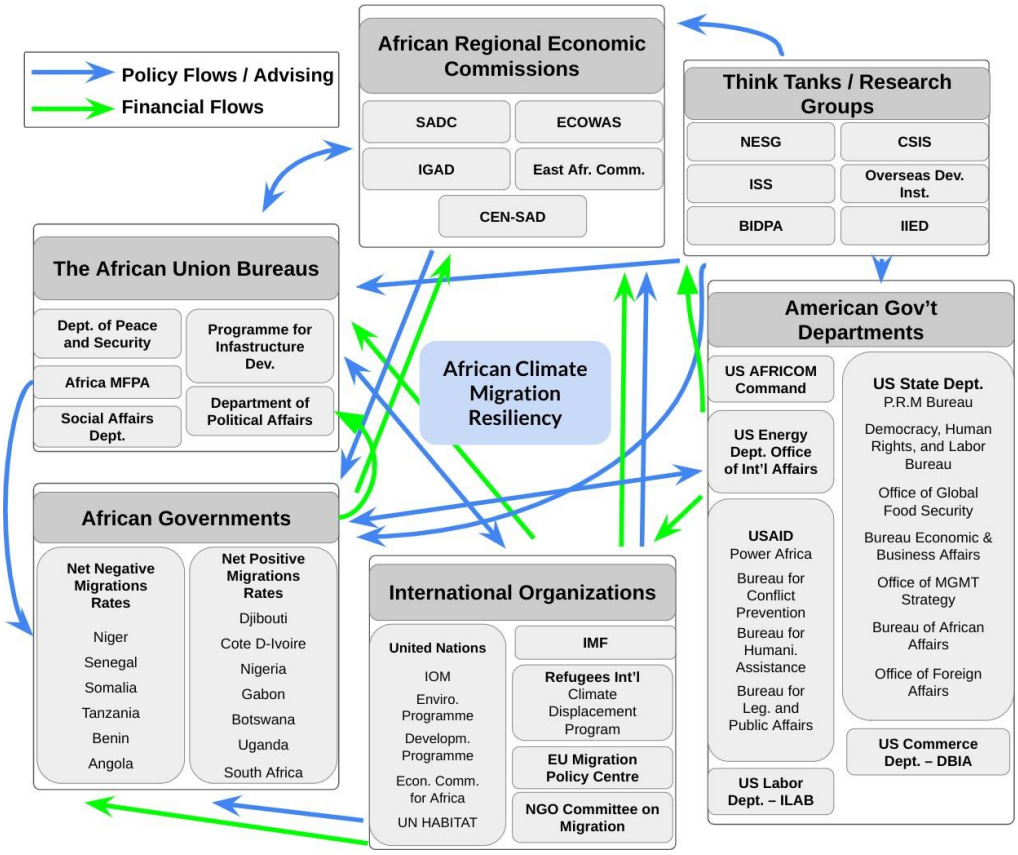


policies across the Continent. Thus, jurisdiction is two-way; they will be called to represent the USG's support and interests when coordinating with a host of outside organizations but must also be fervent proponents for increased USG support to acutely impacted African countries.

Two key reasons emerge as to why the client must be highly active while advocating for USG support to climate resiliency programs across Africa. First, the USG has long been a dedicated and integral partner for African development initiatives. The U.S. has remained the leading source of development aid and engagement to Africa for decades, with over $3 billion spent in FY2022 for COVID19 recovery, food, and economic assistance (U.S. State Department, 2022). Addressing Africa's next challenges must remain a USG priority, especially as the Administration delivers on a new Strategy Towards sub–Saharan Africa that recasts Africa's significance in a shared global future (The White House, 2022).

Second, African partnerships will become increasingly consequential in coming decades, especially as harmful actors like China and Russia pursue greater influence across the Continent. In recent years, these projects provide much more than infrastructure improvements, as certain African leaders have turned to malign actors to assist in surveillance, security, and government platform projects, as well (Jili, 2022) (Marks & Alamin, 2022). The USG can best combat such influences by contrasting these ambitions with initiatives based on shared values; addressing the challenges of climate migration will be a key arena for aligned coordination.

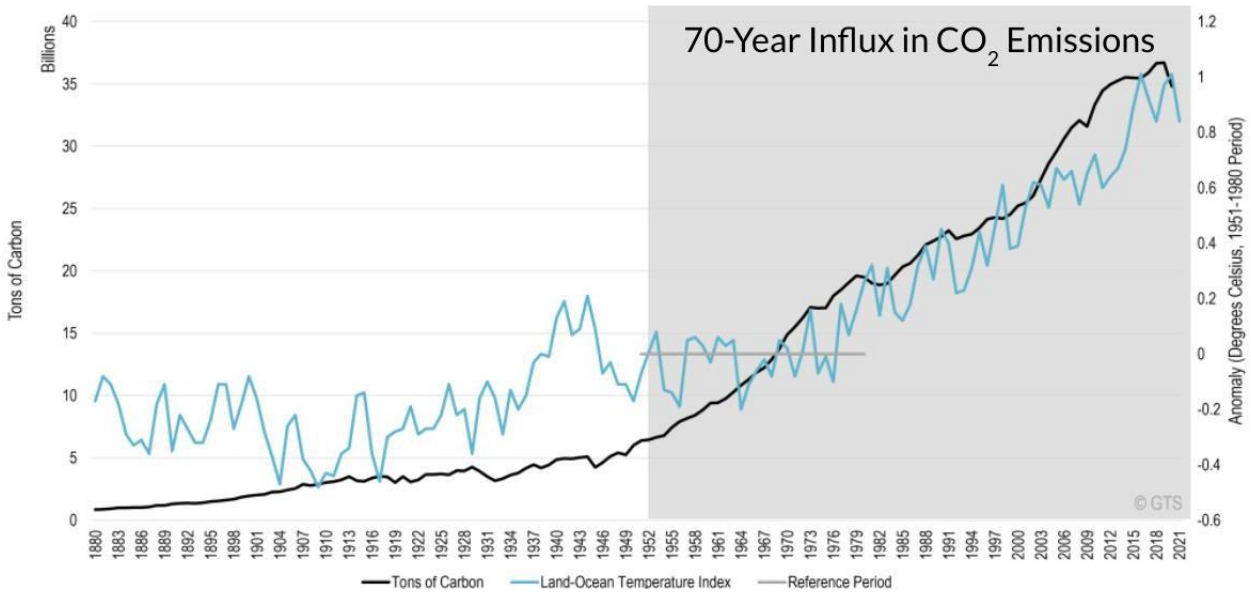
As mentioned, PRM has a wealth of standing relationships with the institutions multilaterally devising Continent-wide resilience initiatives. This policy problem clearly impacts multiple actors working in Africa making up the following policy ecosystem:



Problem Background

Though scientific research can trace general deviations in global temperatures over the millennia, a recent spike in average global temperatures in the past 70 years has triggered several weather phenomena many climatologists label 'unprecedented'. Studies of the international industrial boom of the last 70 years show an influx of carbon gasses strongly correlating with temperature rise unseen within the last 1,000 years (see Figure 1). According to these models from the United Nations Environment Programme, global temperatures are on chart to rise between 2°C and 5°C within the next century, a rate so rapid it has been quickly linked with human carbon consumption (UNEP, 2021).

Figure 1. (Source: National Oceanic and Atmospheric Administration, Earth System Research Laboratory, Global Monitoring Division, 2022)



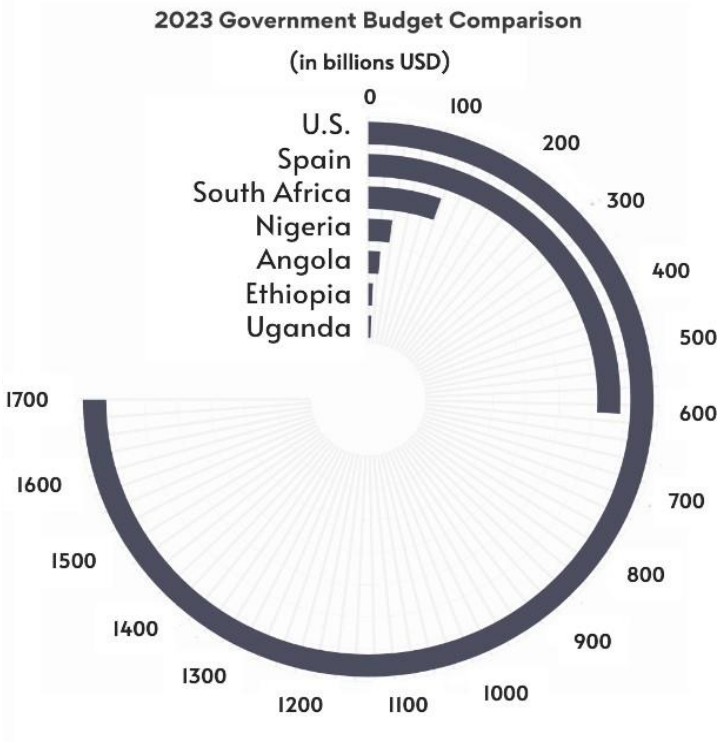
African nations, with less developed economies and lower energy consumption, have not been the primary contributors to carbon dioxide emissions. According to the Carnegie Endowment for International Peace, all African carbon outputs combined only account for around 2-3% of global emissions (Moss, 2020). However, because of these nations' geographies, dependency on agriculture, and persisting geopolitical fragilities, they face a disproportionate threat from climate change's effects. Thus, Africans whose livelihoods are critically dependent on once-predictable weather patterns have been, and will increasingly be, forced to migrate from their home communities seeking economic opportunity elsewhere.

Three primary causes emerge as to why African nations do not have adequate resilience for this crisis:

- First, many African countries have seen some degree of political turmoil in recent decades that has undermined their governments' ability to engage in preemptive policy planning. Civil wars, coups, and numerous corrupt administrations diminish these nations' capacity for long-term policy planning; many countries have instead centered programs around

state building. They are yet working to simply uphold the institutions they need to build climate migration resilience in the long term.

- Second, African governments simply do not have the government funds to implement comprehensive resilience or emergency policy programs. Their ministries, like all other countries', primarily rely on tax inflows to support their social service staff and infrastructure. However, while European and North American governments' tax citizens with average annual incomes north of $20,000 or $30,000, African nations rely on funds from populations earning as little as $1000 (Nigeria) or $950 (Mozambique), on average (World Bank, 2020). Therefore, social services are already stretched thin and development programs are often dependent on aid from European, Asian, and North American nations.



- Finally, the United States Government's engagement with African nations has yet to place climate-based migration as a challenge of prioritized concern. Of Global North actors, the United States has remained the leading source of development aid; however, these efforts are almost exclusively time-bound and dependent on policy goals of the standing U.S. Administration. Analysts conclude a "much more strategic and holistic development approach to Africa is needed" if these nations are to rise to the Global North's capabilities amidst climate, geopolitical fragility, and development challenges they face (Almquist, 2009).

Problem Impacts

Though many regions in Africa have been defined by their migratory populations, the World Bank's projected 90 million displaced Africans over the coming 30 years marks a higher figure than all current migrants on the Continent today (Africa Europe Foundation, 2020). This movement will be both chronologically and geographically spread, yet poses a host of critical challenges African institutions must face:

- Security concerns poised to escalate in cases of mass population movement. Climate events can often leave susceptible areas with resource scarcities, thus leading aggravated communities to commit acts of violence as means to gain security. Migration also brings new groups into proximity, which can lead to conflict if previous grudges or perceived imbalances fester in new environments (The White House, 2021).

- Political turmoil stemming from climate crises. This aspect of climate challenges will affect all African nations, both those with negative net migration rates seeing masses of people leaving unlivable areas and those with positive migratory inflows needing to provide for ever-growing populations with already-strained social service systems. Africans will demand their leaders foster diversified economies that can support those leaving damaged agricultural sectors, support urban areas becoming overburdened with new arrivals, and juggle providing opportunities for migrants against interests of native groups.

- Economic upheaval, especially in the agricultural sector. As a current famine in Somalia illustrates, severe climate patterns damage farming patterns in some of the world's most vulnerable regions. More than 60% of Africa's sub-Saharan population are "smallholder farmers", so millions will need new opportunities as the sector becomes ever more susceptible (Goedde, et. al, 2019).

Evaluative Criteria

The following criteria will be used to evaluate each policy alternative:

1. Cost: The range of contending projects across the Continent led by USG and international organizations require projected investment to be a key consideration. The author will, of course, discuss potential resources PRM will have to directly dedicate, most likely in staff expenditure. However, the more important analysis will be on the overall programs' costs, not just direct resources needed for increased advocacy.

To evaluate cost, the author will use projected USD over the required years for policy implementation. PRM and partner staff salary, physical resources, training programs, equipment, miscellaneous office and program implementation, and costs for advocacy will be key cost factors considered in this criterion's evaluation.

2. Effectiveness: The range of potential issues African nations face from this emerging crisis demands that PRM, as a key partner, advocates and implements programs that will lower displacement rates across the Continent. Thus, each alternative's effectiveness is important, as the Department must promote their value to multiple partners, including private or public funders, African leadership in both regional and national bodies, fellow international agencies working on African development, and partner non-governmental organizations.

Due to the wide range of policy alternatives presented here, the author has not triangulated each potential option to a single effectiveness measure. Rather, they have elected to evaluate how each policy, if implemented effectively, would impact the desired outcomes. These decisions were made to limit potential error on final projections on a single effectiveness metric; had the author calculated each alternative back to one figure, it would have required multiple stages of triangulation and assumptions potentially based on fewer sources. Though the techniques for effectiveness projections have been adjusted to each alternative, the best manner by which the author attained projections is by analyzing similar projects and applying their figures to the African context. Such techniques will be used to apply academic conclusions from a needed range of previous research to give an estimated range for effectiveness.

Change in employment status over the implementation period has been selected as an effective metric as it remains a chief hurdle for migrant assimilation in new communities. This is especially true when regarding high numbers of 'permanently displaced' migrants, caught in a cycle of movement, temporary and informal employment, and potential resource-based conflict (Guimaraes Nobre et. al, 2019). When migrants remain extremely underemployed and dependent on humanitarian aid or social services from their host communities, "a sudden influx … can put pressure on host cities and areas, which may already face difficulties in providing basic services to growing populations" (Rigaud et. al, 2021). Employment can also be seen as an important indicator for migrants' quality of life and agency within a new community.

The total amount of USG funding eligible for the second alternative's innovations is the clearest output the author can project and gives the client a definitive estimate of the policy's scale of impact. Because every project varies in its scope, target community, work sector, and outcome targets, there is no effective course to forecast the total amount of potential jobs

created or migrants affected; yet the client's understanding of USG development work and grant process may allow them a better vantage on the policy's on-the-ground effects across Africa.

3. Scalability/Sustainability: Overall feasibility, like cost, must be considered in two aspects: first, in the direct ability for PRM to secure continued political support, adequate funding, and management personnel through US Administration change for each initiative; second, in the ability for the programs to be *enacted* in the African context. The author has considered political support for previous iterations of similar policies, overall number of needed partners, projected resources required from African governments, and other potential confounding variables in this analysis. Overall scalability for each alternative is assessed on a weighted 1-5 average, with a score for "PRM Administration Feasibility" weighed 40% and "Effective African Implementation Feasibility" weighed 60%. The latter measure is, of course, given more weight given the programs' administration to and in Africa is more pertinent for mitigating socioeconomic fragility than PRM's "jurisdiction" over the policy.

To assess each alternative based on this criterion, the author will consider standing political support for similar initiatives, administrative realities, number and quality of required partners, project length, PRM jurisdiction, and scale of implementation needed.

Secretary of State Antony Blinken meets with African leadership at the U.S.-Africa Leaders Summit. The conference, aimed to increase coordination across economic, civil society, and climate objectives, was held in Washington, D.C. in December 2022.

Policy Alternatives

This final report makes clear that increased advocacy for this policy problem overall is a given necessity. However, the following alternatives will be evaluated according to the criteria mentioned above, as to give the client a clearer picture on costs associated, which policy options are ***best suited*** to increase climate migration resilience, and which are ***most*** feasible over the determined implementation periods. This report prepares the client for their essential advocacy role by providing detailed analysis on each alternative, with a final recommendation stating which of these is the strongest option to promote.

I. Open Work/Movement Permissions

Utilizing the African Union's interest in pan-African cooperation, open work or movement permissions can be an important method to streamline migrant assimilation into new markets. This alternative would align with the Africa Union's African Union Free Movement of Persons protocol, passed in 2017 but not yet ratified by a needed 15 countries' parliaments (Hirsch, 2023). With USG and other development partners underlining the need for states to ratify the African Union's protocol, this policy could ensure entire regions of Africa allow migrants seeking new or improved economic opportunities greater agency to quickly find employment in a new community.

This alternative will assist PRM's goals for African resiliency in two key manners: first, it will decrease the growing number of aforementioned 'permanent migrants', who often know which economic areas promise more stable employment yet must wait, dependent on aid or charity, while registrations and permissions are processed; second, it will decrease migrants' reliance on informal economies to earn essential wages. Such a system across at least regional economic communities, if not the entire Continent, will "allow refugees to establish their own livelihoods and attain a degree of self-reliance" more easily (Ronald, 2020).

To implement these policies, PRM and other partners will need to bolster African Union efforts to incorporate open work permission policies in each acceding state's domestic law, just as the Uganda passed reforms in 2006. The 2006 legislation recognized migrants' rights to public education access, transfer of assets, rights to join in business associations and trade unions, wage-earning employment, access the courts, and a Ugandan-provided identity card (Ronald, 2020). Using networks of US diplomats in each country, the State Department must advocate for the system's benefits for migrants in each African country.

II. Resiliency Credit System for PRM and USG Grant Funding

Established in economic theory, a primary method to promote a change in business behavior requires a value-based market with interested consumers and producers. In the case of development grants to multinational corporations and USG departments, PRM has a vested interest that projects across the Continent be implemented only should they provide long term socioeconomic resiliency. This policy alternative would have PRM, other State Department bureaus, and USAID institute a credit system with specified thresholds grant applicants must meet to receive contract funds. The "credits" would be a mechanical method to influence the development project "market" in Africa.

This policy alternative is based off the US Green Building Council's invention of LEED rating credits, which promote sustainable real estate development by placing a value, LEED Certification, on efficient building. The USGBC created the LEED Credit System in 1995, giving various levels of certifications for development that met selected environmental criteria. Developers interested in garnering higher property values were incentivized by the credit system to commission more sustainable designs that would attract customers (Rosa, 2016). Analysis has concluded "the development of the LEED rating system has made an enormous impact on the design and construction of new buildings … in the U.S. and globally" (Richards, 2016).

In this context, PRM and other African-focused bureaus would determine criteria grant applicants would need to meet to be considered for State Department, or potentially any USG grant for African development. Applicants would need to prove how their intended projects would increase socioeconomic resiliency in areas seeing migrant challenges. This credit system would be decided on by several State Department Offices and implemented across designated State Department and USAID funding in Africa.

III. 'Slum Integration' Infrastructure Development

To best prepare the several African cities poised to see mass population growth and migrant influx in coming decades, this alternative calls PRM to advocate for preemptive infrastructure projects in their non-developed areas, referred to as "slum integration" policies. Through such projects, cities facing inevitable arrivals, whether climate-based or not, will be better acclimated for human movement in coming decades. This policy has been well-endorsed by the World Bank and the United Nations, who have all contributed significant funding to development projects building affordable housing, resilient road and public transit, and human infrastructure in African (Djibouti; World Bank) (Kenya; World Bank) (Kenya; UN Habitat), South American (Brazil; World Bank) (Brazil; UN Habitat), and Asian (Indonesia; World Bank) (Philippines; World Bank) contexts. To better mitigate costs and logistical barriers, 'slum integration' is best pursued before new arrivals make construction costly and nearly impossible.

There are two clear manners this alternative will support PRM's objectives in Africa: first, it creates employment opportunities for newly landed groups, thus lowering the risks of high 'permanent migrant' populations; second, it mitigates the potential for geopolitical risks, stemming from resentment towards government, in "peri-urban" areas with low standards of living. Providing basic sanitation and civil services in areas poised for mass influx is a vital first step towards raising the living standards in potentially fragile areas (Landau, 2022). As the World Bank reports, "Anticipatory planning through a focus on climate migration to peri-urban areas could lay their foundation as growth poles in place of sprawling slums steeped in poverty" (Rigaud et. al, 2021).

The earlier PRM advocates for investment in such public works, the more cost effective and logistically feasible their realization will be. However, implementation will rely on multilateral cooperation amongst the EU, international foundations, and other private sources of development funding. PRM and other State Department offices can lead the promotion for this alternative when engaging directly with these partners, yet must also advocate their benefits to African leadership, especially on the national level. This raises an additional

consideration – PRM and its partners must oversee whether projects are employing Africans, creating accessible infrastructure, and are driven to developing areas in genuine need rather than by return on investment. Additionally, development agencies will have to preemptively assess whether initiatives promote long term opportunity, not just short-term capital infusions.

IV. New US State Department Office for African Climate

Clearly the most internally facing of the alternatives, this policy would establish a U.S. State Department Office for African Climate under the purview of the Department's Bureau for African Affairs. This alternative is proposed as an overarching recommendation to facilitate implementation of other Africa-facing programs across USG offices; though its costs and scalability will be weighed, its potential effectiveness is not evaluated to single metric.

Building off expertise from PRM and fellow bureaus' staff, a more comprehensive team based in Washington, Addis Ababa (African Union headquarters), and strategic African offices would deliver concerted efforts to both sustainable transition and resiliency efforts across the Continent. The proposed Office would take a comprehensive lead on this front, potentially forcing African partners to begin policy infrastructure work on this issue, and certainly placing preemptive resilience measures as a more central function for USG diplomacy.

This alternative may require the longest framework design runway, especially for the Department to request increased appropriations to meet the staffing and operational needs for the new Office. First, the Assistant Secretary for PRM and Assistant Secretary for African Affairs would need to assign an inter-bureau task force to determine office jurisdiction, staff requirements, and additional logistics needs for inception. After a comprehensive action plan and timeline are established, the two Assistant Secretaries would bring the proposal to the Secretary for review. Once proposals are approved by both the Secretary and requisite Congressional leaders, this alternative would then require White House approval, all of which would be dependent on the Administration's party leadership and concurrent foreign policy goals.

Policy Findings

The following section presents quantitative findings on the costs, effectiveness, and scalability/sustainability metrics across each of the author's selected policy alternatives.

Policy Alternative I: Open Work/Movement Permissions

Utilizing the African Union's interest in pan-African cooperation and its affiliated regional economic communities, open work permissions can be an important method to streamline migrant assimilation into new markets through ratification of the African Union Free Movement of Persons protocol. With USG and other development partners underlining the need for fewer logistical hurdles while working with cross-Continental leadership, entire regions of Africa would loosen or drop permit restrictions on migrants seeking new or improved economic opportunities.

Cost: Regarding costs for open work permissions on the Continent, the World Bank has initiated a long-term project emphasizing the need for greater identification systems across the globe. As a part of their research, their team created the ID4D Cost Model and Understanding Cost Drivers of Identification Systems reports in 2018. Based on these findings, the four highest impact areas determining costs of ID and immigration system efficiencies are country population, average wage levels, telecommunications access, and urbanization of the population (Koshy et. al, 2018). The author used the Cost Model program to determine general costs over a 10-year enactment period to understand a basic framework for the administrative costs of ID programs across the Continent. The author understands many migrants cross borders or enter new communities without any form of government identification and remain working in informal economies for their entire life, yet plenty of this alternative's needs will come from technological, staff, and training overheads the model accounts for.

The World Bank's Cost Model is divided into seven spending categories, including human resource, software, facility, credential database, and IT requirements (Koshy et. al, 2018). It allows the user to input needed metrics before running a macro program with the following assumptions:

Enrollment cost assumptions: Refer to Appendix 1

The author has used averages across the African continent for their inputs into the program. All metrics in the table below average the countries' financial and anthropological data. The author selected the lowest requisites for ID and the lowest cost model, given that many of these programs will be initiated for the first time in many African regions.

World Bank ID4D program inputs (African averages across all anthropological metrics): Refer to Appendix 2

Though there are mentioned limitations applying this cost model to the policy alternative, the author ran the World Bank's program and found an average African country would need to dedicate $384 million to reach 75% ID administration over the 10-year period (Koshy et. al, 2018). Again, there will be significant differences in enacting an immigration system compared to a general identification system across a country, and each state presents different

implementation challenges. However, the author assumes many of the needed technologies, personnel, training, call center, and mobile office capabilities a national identification program demands are similar to those needed for border registrations.

Regarding other costs associated with developing an open border system, Uganda has received considerable funding from the World Bank and COMESA to strengthen their tracking systems and equip border staff for arrivals. Line-item costs were most recently calculated by the World Bank's report on the Great Lakes Trade Facilitation Project, which financed improvements to core trade infrastructure and facilities at specific land border crossing points across Uganda. Four key components for the development were laid out, with "Border infrastructure and facilities" receiving $22.45 million, "COMESA Regional Coordination" under new guidelines calling for $4 million, and "Performance Based Management in Cross Border Administration" requiring $4.5 million (World Bank Group, 2015). Adjusting for inflation from 2015 funding, the total for this work would be $40 million.

The borders between Uganda, Rwanda, and the DRC are some of the most active in the Continent. Based on DTM tracking from 2019, there were approximately 1,975,000 migrants that moved amongst Uganda, the Democratic Republic of the Congo, and Rwanda (UN Migration Agency, 2020). That accounted for approximately 8% of total cross-border movement on the Continent (United Nations, Department of Economic and Social Affairs Population Division, 2019). Therefore, if specific policies for border development cost $40 million over five years to regulate 1/10th of total African movement, the total costs for this work would add $800,000,000 for the 10-year implementation. The author has multiplied the total costs per country from the World Bank's Cost Model program by the 35 African nations that still require visa registration upon arrival from a majority of other African states (Immambocus, 2021) (IATA, 2021).

The estimated 10-year implementation cost projection of this alternative is $14.3 billion.

Calculation: (Cost Model * Countries) + World Bank Border-Specific Costs) = Total Cost ($384,000,000*35) + $800,000,000 = $14,430,000,000

Effectiveness: To derive a final effectiveness estimate for this alternative, the author undertook the following process:

1. Determined the difference in average employment rates between refugees settled in Uganda, where an open work permissions system has been enacted since 2006, and African counterparts still requiring specialized work registration upon entry.

2. Established a connection between employment status and quality of life. As mentioned, this alternative cannot prevent migration from climate-inflicted areas. Yet, it can lower the overall levels of non-permanent status across the Continent by enabling those who become displaced to find suitable work.

Uganda hosts more refugees than any country on the Continent and passed the National Refugees Act in 2006, allowing refugees to settle in their desired region, complete needed self-documentation processes through Ugandan ministries, and seek employment or start

businesses. The country therefore provides a suitable model to estimate the difference open work permissions create on a refugee's employment status.

The World Bank Group and UNHCR completed a 2016 assessment of Uganda's progressive approach, finding the policy removed many "needless" barriers refugees face when accessing health, education, water, sanitation, and other community services. However, employment amongst these groups does not yet match that in host populations. According to their research, nearly 43% of refugees have stable employment in Uganda. However, Ethiopians and Eritreans are much more likely to work in the formal sector, while Congolese, Rwandans, and Burundians are primarily found in agricultural work (Vemuru et. al, 2016). This study will be weighed at 15% for the final average.

The World Bank also completed a 2018 assessment of Uganda's open work framework, with markedly different results. In that review, the team underlined the disparities across all fronts in rural areas compared to the Kampala region. This dynamic does somewhat switch regarding employment, however, as the country average of 28% refugee employment is higher than the capital's average. Overall, however, this 28% is much lower than the first study's figure and will be weighed at 40% (Jaramillo et. al, 2019).

Finally, the World Bank published a COVID19 impact assessment on various refugee social outcomes in 2021. In this report, they found that refugee employment fell around 5% during lockdowns, and still lagged well behind Ugandan rates. The report states the 2020 pre-COVID "work involvement" rate was 56%, though it is unlikely it has fully recovered. Thus, the author will adjust this most recent rate to account for a 5% loss and give this study a 45% weight (Atamanov et. al, 2021).

Based on the three studies' weighted averages, about 38.35% of refugees in Uganda are employed in some manner.

Compared to neighboring countries, internationals who cross into Uganda do have a better chance of finding employment, most likely due to the open work permissions offered in the country. The University of Oxford's Refugee Studies Centre found around 34.25% of refugees in Kenya are employed, though contributed Kenya's relative economic strength as a driver (Betts et. al, 2019). In Ethiopia, which has the second-largest refugee population of any African state, only 21.2% of refugees are employed (Graham & Miller, 2021). Finally, Tanzania, which shares a border with Uganda and has a relatively similar GDP per capita, has been monitored as one of the least welcoming states for incoming migrants. A Center for Global Development report from 2022 found only 16.5% of internationals have suitable employment and face strict regulations in doing so (Ginn et. al, 2022). Applying these three benchmarks, the author can conclude that more inclusive open work permissions raise employment status of refugees by around 14 percentage points.

Calculation:

Ugandan Refugee Employment % - Averaged Benchmark Refugee Employment % 38.35% - (34.25%*(1/3)) +(21.2%*(1/3)) +(16.5%*(1/3)) = 14.35%

The impacts of wages and employment on quality of life have been measured in other contexts, as well. "Quality of life" is a relatively qualitative metric, yet research has pointed out

that employment status has a 90% association with someone's sentiments (Aceleanu, 2012). This association, however, has not proven to be a direct contributor to higher quality livelihoods, proving a key limit on this policy alternative. This is especially true in low wage positions migrants are likely to find, as 84% of Kenyan respondents in a 2018 study stated their new position had not contributed to a better overall quality of life (Kimaiga et. al, 2018). A similar 2016 study conducted in Uganda found that quality of life was "negatively associated" with employment status (Renzaho et. al, 2018). However, there is existing evidence that employment that can create some 'economic freedom' can move the needle (Akinlo & Okunlola, 2022).

Overall, there is no clear consensus on whether increased access to work will meaningfully raise quality of life standards for African migrants likely to work in the lowest paying and most vulnerable economic sectors (Abdychev et. al, 2018).

Scalability/Sustainability: Despite mentioned shortcomings in the ECOWAS' open movement system and COVID19 disruptions in the African Union's rollout of a free movement policy, PRM can certainly capitalize on clear momentum behind this alternative. Almost all research concludes that open movement facilitates trade, communication, and lowered tensions between states, and the Continent's highest governing body has dedicated it significant political support (Okunade, 2021) (Immambocus, 2021) (Hausmann, 2009. Further, the work advocating for this alternative falls well within the client's purview, as migration diplomacy is a key aspect of their work on the Continent. For successful take up across Africa, however, the Bureau of African Affairs' four regional offices will also need to join in advisement strategies, as to better coordinate the USG message and provide full backing for a policy that has struggled to get off the ground. Given the familiarity to the alternative's concept and PRM expertise in the issue area, this alternative receives a 4 for its PRM Administration Feasibility score.

Scalability across the Continent, however, will prove difficult. ECOWAS' open movement system was first passed in 1979, with the first stage of free cross-border entry enacted in 1980. Since then, however, no additional steps have been fully ratified by the treaty's membership (Agyei & Clottey, 2008. The principal challenges for Continent-wide enactment are costs associated, citizen distrust of foreign arrivals, and lack of clarity on the policy's benefits:

- As made clear by the author's previous estimates, building up the facility, personnel, and information infrastructure to realize this alternative is costly. In a Continent where budgets are continually strained and other projects take precedence, even basic identification systems within borders are already unrealized (World Bank, 2023).
- There are yet swaths of African populations who are wary of open border policies, as ethnic divides, fear of job loss, and economic protectionism have all contributed to anti-immigrant sentiments (Arhin-Sam et. al, 2022) (Hamadou, 2020) (Hirsch, 2022). State leadership is unlikely to move forward on this policy's implementation if their native populations are yet resistant.
- The benefits of this alternative have not yet been adequately communicated. There are regions in Africa, most notably in ECOWAS states, where movement across borders had

long historic precedent before signed treaties, yet academic research on the economic potential open movement allows has yet offered little resistance to populist ideologies (Arhin-Sam et. al, 2022). PRM and other international partners must do more to highlight "mobility of specific categories of migrants such as businesspersons, migrant workers, students and tourists, in order to take advantage of the "economic opportunities presented" by the policy (Bisong, et. al, 2021).

The African Union and regional economic communities have voiced continued support for this policy and analysts have provided plenty of research on its benefits. However, this alternative requires 50-plus nations to implement policy to ratify the African Union's Protocol for the Free Movement of Persons and provide funding for the processing and logistics systems detailed in the costs section. The array of actors, sentiments, and regional integration challenges means the alternative receives a "Effective African Implementation Feasibility" score of 2.5 out of 5.

Applying the author's weights to the two aspects of the Scalability/Sustainability metric, this alternative receives a 3.1/5.

Policy Alternative II: Resiliency Credit System for PRM and USG Grant Funding

> Established in economic theory, a primary method to promote a change in business behavior requires a value-based market with interested consumers and producers. This policy alternative would have PRM, other State Department bureaus, and USAID institute a credit system with specified thresholds that grant applicants must meet to receive contract funds. In so doing, the client produces a desired 'value' in the 'market' that consumers, whether foundations, private firms, or nonprofits interested in contracts desire.

Cost: The author recommends two Officers over the next five years working on developing the credit system and coordinating with other Departments to include them across USG contracts, meaning total salary costs, accounting for 3% salary Step increases at 2-year intervals over the course of the project, will cost around $956,738 (United States Department of State, 2022) (Office of Personnel Management, 2022).

Calculation: Salary paid to an Officer over 5-year project.

((93415*2) +((93415*1.03) *2) +((96218*1.03) *1) = $478,369

Total salary paid (2 Officers): $478,369*2 = $956,738

The author has referenced the development of LEED Certification as a benchmark program on which a grant credit system could be based. Managed by the United States Green Building Council, the credit system is continually evolving to establish better standards for overall building sustainability. USGBC has also added credits in recent years for Healthy Buildings, with a report on their inclusion published in 2021 and full incorporation in 2022 (Overbey,

2022). This gives the author a fair picture of funding needed to robustly research and advocate for new requisites. The USGBC most recently completed a full financial audit in 2020, with total LEED program expenditures reaching over $12 million (USGBC, 2021). Also, the Robert Wood Johnson Foundation awarded a $1.2 million grant to the USGBC in 2015 for specific development of the Healthy Buildings credit system, which was given over a three-year period (Althen, 2015). Given the author has estimated this alternative's rollout would require five years, that funding has been adjusted to $2 million over 1 2⁄3 the lifespan.

Given only 12% of overall development funding for LEED Credits was given to research, the author expects advocacy to private partners and USG contractors to also account for a larger share of this alternative's cost. The author expects internal research and requisite determination costs to account for 30% of the alternative's total cost, while consequent advocacy to other USG departments and agencies will make up 70%. If research is to cost $2 million, the overall cost of this alternative will reach $6,667,000. The author has added salaries to the overall cost. These would be included in the overall costs of grant development laid out in the calculation process above. However, for the sake of uncertainty and the author's triangulations, they will be simply added in precaution.

Therefore, this alternative's cost is estimated at $7,623,738 over five years.

Effectiveness: In order to derive a final effectiveness estimate for this alternative, the author undertook the following process:

1. Determined the total grant funding provided by USAID and the US State Department in fiscal years 2020 through 2022.

2. Determined all USAID and US State Department funding directly related to climate resiliency projects.

3. Removed funding for health and nutrition initiatives.

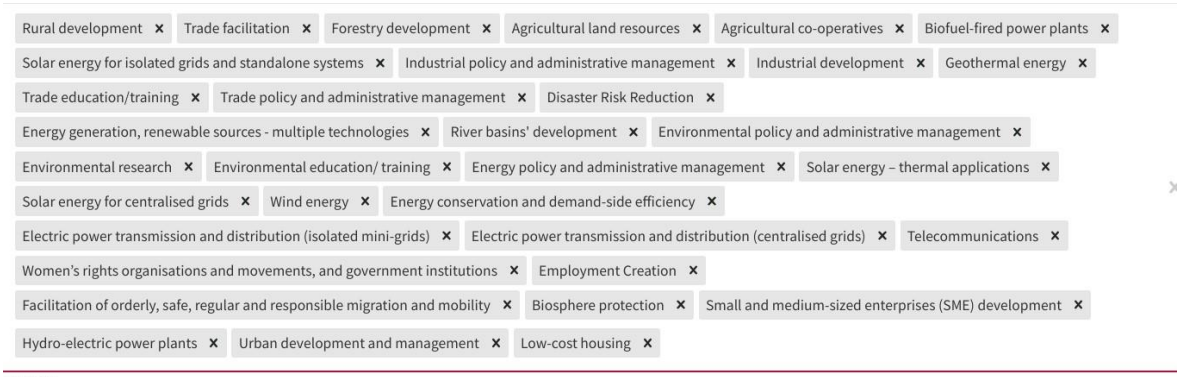
4. Determined the number of projects and total funding that could be directed to climate-related directives.

Based on data from USAID's Foreign Assistance tracker, USAID and the US State Department disbursed over 8,000 economic grants and loans to enterprises, NGOs, faith or church-based groups, and public-private partnership teams in FY 2020. The total funding totaled over $5.114 billion (USAID Foreign Assistance, 2021). In FY 2021, the total number of grants to the same set of implementing partners was over 13,300; disbursements in that year totaled $5.928 billion. Finally, the new FY 2022 data states 9,300 grants went to sub-Saharan Africa totaling $6 billion (USAID Foreign Assistance, 2023). Averaging these years out, the two departments, even across Administrations, fund around 10,200 initiatives costing $5.681 billion per year.

Using data queries through Foreign Assistance, the author compiled the list of grants pertaining to climate change mitigation, population and socioeconomic resiliency, or economic development in sustainable sectors for the same actors in the same years (Figure 2.). Across the three fiscal years, only 776 grants for these partners were administered: the total funding

for such projects $189 million per year, or 10% of total disbursements to Africa (Foreign Assistance, 2023).

Figure 2. Selected grant disbursement purposes eligible for climate resiliency. (via USAID's Office of Foreign Assistance)



Purpose

The author has also opted to remove health and nutrition grants from consideration in the effectiveness determination for this alternative. Spending in these emergency fields is so crucial they have decided placing credit requirements on those expenditures would be a hindrance to overall African stability. In the mentioned fiscal years, these departments funded an average of 2,654 projects costing $2.472 billion per year (Foreign Assistance, 2023).

These findings make clear that billions in economic development spending goes to Africa without much leaning towards long-term climate resilience. Even USAID and the US State Department, with their strong knowledge of the underlying conditions that set African markets back and leadership connections that could inform new project objectives, fund thousands of programs that may provide some economic benefit to communities, but do not account for the challenges climate change will pose to energy, human development, agriculture, and civilian infrastructure. Based on the author's calculations, 7,287 development projects totaling $3.02 billion per year would be eligible for this new credit program.

Investments in housing, sustainable power sources, better farming techniques and other UN Sustainable Development Objectives could rapidly become a centerpiece of contracted work on the Continent. Though there is not adequate data to triangulate such work across varied sectors to migration mitigation, raising the standards of living in climate-vulnerable regions and providing suitable employment opportunities will be a vital aspect of resiliency against the pressures of mass population movement. These benchmarks also give a reasonable estimate on how far USG grant money can go to providing such benefits. For example, the Nigeria Power Sector Program, funded by USAID and implemented by Deloitte and eight Nigerian power companies, provided stable power to 50,000 new "connections" in its first two years and has achieved 157% of its personnel training target. (Deloitte Consulting LLP, 2022) (Foreign Assistance, 2021).

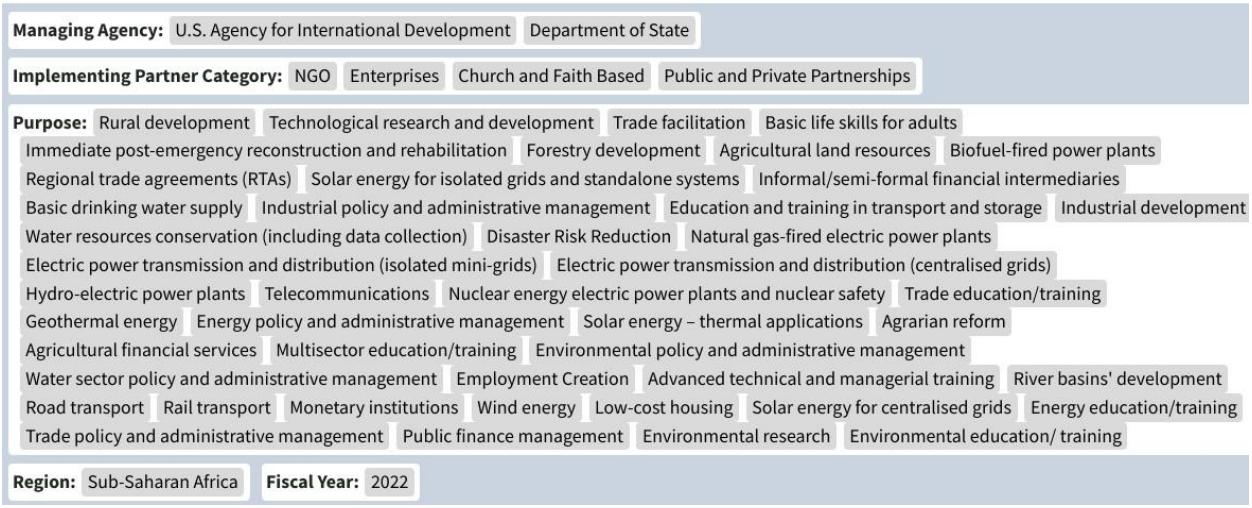
Also, a five-year Southern Africa Energy Program administered by Deloitte across SADC countries received $40 million in USAID funding for energy transmission and production in some of the Continents poorest regions. In the year four report, Deloitte had delivered

1,168,725 African homes new electricity access, or 93.8% of the target goal; the program has also reached 20x its target energy savings goals and provided employment to 1,044 people, or 90% of the target (Deloitte Consulting LLP, 2021).

As stated, implementing this alternative could create around $3 billion in annual grant funding specifically ***dedicated*** to climate and human resilience projects. If averaging the number of projects currently funded by $3 billion in USG grants, around 7,000 initiatives aimed to raise living standards, transition energy and local markets towards sustainable growth, and create employment opportunities in strategic regions.

Scalability/Sustainability: The United States Government has thousands of annual grants for African development covering a wide range of activities and sectors. The author has referenced the Office of Foreign Assistance's 2022 funding summary, finding that the State Department alone gave $675 million in global aid (USAID Foreign Assistance, 2023). However, once parsing down USAID and US State Department grants to private enterprises, NGOs, church and faith-based groups, and public/private partnerships, there is still a substantial figure that could be affected by this required crediting alternative (USAID contributes the wide majority of international spending). According to data on funding to these organizations in the fields that would most acutely affect migrant groups (Figure 3.), disbursements in 2022 totaled over $216 million (USAID Foreign Assistance, 2023)

Figure 3. USG Grant Criteria (data via USAID's Office of Foreign Assistance)



PRM Officers and USAID staff with African expertise would be quite capable of creating appropriate requirements these stakeholders would need to meet. With their mutual connection networks, the two departments could also build a strong understanding of which projects would best build resiliency. There is a path where these credit requirements were only to be enforced on State Department and USAID development grants, which would surely raise the amount of jurisdiction these teams would have over their implementation. Thus, this alternative earns a 4 for its PRM Administration Feasibility score.

Most African countries have submitted their Paris Accord-aligned Nationally Determined Contribution sustainability plans yet await needed funding from Global North nations to see

those programs' implementation (Guzman et. al, 2022). Thus, Convincing African governments to accept development projects that center on long-term socioeconomic resilience will not be the chief challenge in this policy's implementation. There are so many international actors working in this space, however, meaning full take up will be challenging. This alternative earns a 3.5 for its "Effective African Implementation Feasibility" score.

Applying the author's weights to the two aspects of the scalability/sustainability metric, this alternative receives a 3.7/5

Policy Alternative III: 'Slum Integration' Infrastructure Development

> To best prepare the several African cities poised to see mass population growth and migrant influx in coming decades, this alternative calls PRM to advocate for preemptive infrastructure projects in their non-developed areas, referred to as "slum integration" policies. Through such projects, cities facing inevitable arrivals, whether climate-based or not, will be better acclimated for human movement in coming decades.

Cost: There has been significant research done on the costs required to raise infrastructure quality in 'peri-urban' areas surrounding African cities. The author has calculated the predictive range of needed funding from a host of international sources, most namely private enterprises, to raise living standards and create suitable employment opportunities though infrastructure development in the areas migrants are most likely to relocate.

In 2002, the World Bank completed a cost-effectiveness assessment on four slum integration projects completed in Accra, Ghana and Dakar, Senegal. These projects covered a range of development objectives, including water quality, sanitation, and housing, which gives the author a better-suited average for the various requirements for different goals. Given the figures are based on work done from 1985 to 1997, the author has adjusted the following table to 2023 currency (World Bank, 2002) (Gulyani & Connors, 2002).

Original Project Costs				
Project	Year	Population	Total Cost	Cost/capita
Accra District Rehabilitation Project	1985	19,200	1,580,000	82
Priority Works Project	1988	70,480	4,508,000	64
Urban II	1988	88,960	8,865,000	100
Urban Environmental Sanitation Project	1997	264,000	13,960,000	52

Project Costs Adjusted to Inflation				
Project	Year	Population	Total Cost	Cost/capita
Accra District Rehabilitation Project	2023	19,200	4,376,600	228
Priority Works Project	2023	70,480	11,405,240	162
Urban II	2023	88,960	22,428,450	252
Urban Environmental Sanitation Project	2023	264,000	25,965,600	99

Also, the African Development Bank completed a per capita assessment across various 'slum integration' development fields in 2013. The African Development Bank's analysis found that high quality infrastructure development, which includes in-house tap access, a stable energy grid, neighborhood septic tanks, and high-quality roads will cost $480 per capita within the author's selected density criteria (Mubila et. al, 2013). Adjusted for inflation, that figure would be approximately $630.

Finally, the Lincoln Institute of Land Policy completed a 2013 needs assessment for such projects, finding that 'slum integration' projects including housing, schooling, and basic infrastructure developments remain woefully underfunded. In their analysis, which was based on spending from mentioned U.N. Millennium Projects, they estimate that 570 million migrants would require $270 billion in infrastructure spending to ensure quality living standards (Bahl et. al, 2013) (UN Millennium Project, 2005). This per capita rate of $475 would adjust to $620 today.

For a final cost evaluation, the author has decided to weigh the above sources based on their pertinence, time of publication, and scope. The African Development Bank's work will be weighted most at 50%. This will be followed by the inflation-adjusted analysis from the World Bank, which will receive 30% weight. Finally, the Lincoln Institute of Land Policy's estimates were made on a global scale and adjusted; they are only given 20% weight considering they do not consider a solely African context.

Therefore, the author's per capita cost estimate for this alternative is $495.

Calculation:
(AfDB Cost/Capita Estimate*.5) +(Avg. World Bank Cost/Capita*.3) +
(Lincoln Inst. Cost/Capita*.2) = Cost/Capita estimate

(630*.5) +(185.25*.3) +(620*.2) = $495 per capita

Though the World Bank has projected 90 million people will be displaced from climate related issues in the next 25 years, overall displacement figures on the Continent are projected to be much higher. The author is aware of this research, but given the scope of this project, they have opted to keep such calculations out of frame for estimates. Therefore, the final estimate for the alternative's cost will be based on the original Problem Statement figure.

The final cost estimate for this alternative is $35.6 billion over a 20-year period.

Calculation:
((Total climate migrants*(20 years/25 years)) *Per capita cost estimate = Total Cost

(90 million*.8) *$495 = $35,640,000,000

Effectiveness: The best available effectiveness research on slum integration projects evaluates effects on employment outcomes for those living in afflicted areas. These conclusions are useful for this analysis, however, as previous alternatives have also determined the effects of the new policy on job opportunities. It must be noted, however, that there is inconclusive proof as to whether low paying, temporary positions, like those in infrastructure or basic services, raise self-reported living quality standards for new migrants.

There are three key outcomes infrastructure development in peri-urban areas seek to address: first, by building connected energy systems and transportation, the projects connect these neighborhoods with the rest of the city and facilitate economic activity for high poverty arrivals; second, safe water, sanitation, or energy can increase household productivity, potentially lifting groups out of informal economies and into roles that benefit the host region's economy; finally, the construction and maintenance of new homes, water and sanitation systems, and civilian infrastructure creates local employment (Mesplé-Somps et. al, 2020).

The first cited research comes from the Integrated Urban Development Project implemented in the Balbala neighborhood of Djibouti City. The project was conducted in two phases from 2010 to 2014, costing €5 million from the Agencie Francaise de Developpement. Projects ranged from health care facility, police station, public square, access road, and drainage system construction. However, research found that the programs had little to no effect on employment status for people living within the Balbala neighborhood. The project had failed to lower transportation costs to better economic centers or decreased travel times to formal work opportunities. The projects did provide short term employment opportunities during construction, as around 350 Djiboutians were contracted during the four-year implementation phase, though wage earnings decreased from the 2010 baselines (Mesplé-Somps et. al, 2020).

In a non-African setting, Laura Atuesta and Yuri Soares completed an analysis of the UN Habitat and Inter-American Development Bank's funded integration program in the Favela Barrio neighborhoods of Rio de Janeiro. Their analysis tracked housing values, employment attainment, and access to basic water and sanitation services over three years. According to their research, the $300 million program had no effects on employment or household incomes but did increase access to basic services and housing values (Atuesta & Soares, 2018). In their conclusion, the authors state the programs did mitigate inequalities between those in peri-urban slums as compared to more developed neighborhoods but did not successfully "improve life quality for the beneficiaries".

Finally, the Urban Program on Livelihoods and Income Fortification and Socio-civic Transformation was implemented by World Vision and Kampala City Council Authority

over three years in the Makindye and Nakawa districts of Uganda's capital. Based on the research team's qualitative findings, they found the program did raise living conditions and personal growth scores yet found the neighborhoods had lower average employment and neighborhood safety after implemented social services (Renzaho et. al, 2016). Overall, the research concluded that "UPLIFT had no observable impact of the quality of neighborhood social environment.

Based on the research, slum integration has little effect delivering long-term employment opportunities for migrants or raising comprehensive quality of life standards. Thus, the alternative may offer little towards lowering non-permanent status for migrants and implementation cannot assure any changes to the rate of overall displaced due to climate challenges.

Scalability/Sustainability: USG departments grant billions each year to global programs promoting human development worldwide. However, USG alone will never adequately cover the needed funding for this initiative, nor will PRM, with its mission goals centered around migrants' rights and quality of life, be able to fully coordinate the range of actors needed for successful implementation. The client and USG can advocate for these projects to the international groups able to provide funding, but this alternative will require a multi-national, multi-sector investment over decades. Because such a small share of overall funding and project management is within PRM jurisdiction, this alternative receives a 1.5 for "PRM Administration Feasibility".

Slum integration has proven to be a well-researched policy option implemented across multiple Continents. There is significant precedence for such development in Africa, as international institutions have completed projects in Mozambique, Ghana, South Africa, Senegal, Djibouti, and other states (Gulyani & Connors, 2002). Many of the targets for the UN's Sustainable Development Goals derived to drive global resiliency strategy also align with 'slum integration' initiatives, meaning major Global North funders could be increasingly pushed to commit to such work (Blazhevska, 2021). However, this alternative demands billions in financial support and must be implemented across dozens of major African cities with various degrees of risk, market inefficiencies, and governmental challenges. Therefore, it receives a 2.5 for its "Effective African Implementation Feasibility" score.

Applying the author's weights to the two aspects of the scalability metric, this alternative receives a 2.1/5.

Policy Alternative IV: New U.S. State Department Office for African Climate

This alternative would have USG establish a U.S. State Department Office for African Climate under the purview of the Department's Bureau for African Affairs. This alternative is proposed as an overarching recommendation to facilitate implementation of other Africa-facing

programs across USG offices. A more comprehensive team based in Washington and strategic African offices would deliver concerted efforts to both sustainable transition and resiliency efforts across the Continent.

Cost: The author projects Office establishment will require 15 new staff members, as well as a Deputy Assistant Secretary. The author predicts Office staff will be from multiple Officer classes and has therefore adjusted salary expectations. Estimates are made on a 20-year proposal. The author estimates a new Office will have approximately 4 staff members on the Class 5 and 6 pay schedule. Their starting rates will be 47,619 and 42,570, respectively, with increases following the FS pay schedule. Thus, with Step increases calculated every two years, that staff will cost approximately $4,166,110 over 20 years.

Calculation: (Appendix 3)

The author estimates a new Office will have approximately 6 staff members on the Class 3 and 4 pay schedules. Their starting rates will be 72,526 and 58,767, respectively, with increases following the FS pay schedule. Thus, with Step increases calculated every two years, that staff will cost approximately $9,030,702 over 20 years.

Calculation: (Appendix 3)

The author estimates a new Office will have approximately 4 leadership staff members on the Class 2 and 1 pay schedule. Their starting rates will be 110,460 and 80,505, respectively, with increases following the FS pay schedule. Thus, with Step increases calculated every two years, that staff will cost approximately $8,756,762 over 20 years.

Calculation: (Appendix 3)

Finally, the new Office will require a Deputy Assistant Secretary reporting to the Assistant Secretary for African Affairs. The average starting salary for these roles is $165,000 base, following the FS Step pay increase system (Government Executive, 2022). Therefore, the position will cost 3,374,464 over 20 years.

Calculation: (Appendix 3)

Overall, 15-person Office's salaries over a 20-year implementation would cost $25,328,038.

To determine the total amount of benefits required for the new Office's personnel, the author has also calculated the amount of fringe benefits owed to full-time employees. To calculate the fringe benefit rate, the author has referenced the US Department of Labor's Bureau of Labor Statistics Employer Costs for Employee Compensation Report from March 2023, which states civilian workers in the federal government's salary accounts for 69% of total costs, while fringe benefits make up 31% of total liabilities (Bureau for Labor Statistics, 2023). Therefore, if $25 million in salary costs over the 20-year implementation period account for 69% of total employee benefit spending, total employee compensation will land near $37 million.

Calculation: Salary Spending = 69% of Total Compensation

25,328,038 = .69 (Total Compensation) = 25,328,038/.69 = $36,707,301

To determine additional costs for the newly established Office, the author has referenced the FY2022 State Department Agency Financial Report to calculate the various allocations given by administrative duty.

According to the FY2022 Financial Report, $33.8 billion, or 83% of Department spending is dedicated to "Federal Employee and Veteran Liabilities" (US Department of State, 2023). This refers to the employee compensation calculated above. Spending under this category accounts for "pension and retirement plans administered by the Department", as well; fringe benefits are thus included in $33.8 billion. Therefore, the remaining 17% of the Bureau's spending is dedicated to administrative, information, rental, travel, and other miscellaneous needs.

Based on the FY2022 budget report for all State Department offices, and 83% of the Bureau's expenditures being dedicated to salaries, the author has triangulated administrative costs for a new Office of 15. If total benefits for the new office over the 20-year period demand $36.7 million and account for 83% of the needed budget based on the overall Department benchmark, total costs, including salaries and administrative, information, training, and miscellaneous expenditures will fall around $44,226,000 over a 20-year period.

Calculation: Employee Benefits = 83% of Total Office Spending

36,700,000 = .83 (Total Office Spending) = 36,700,000/.83 = $44,225,664

Effectiveness: Rather than providing a quantitative measure on this alternative's effectiveness, the author has elected to provide evidence as to how a new Office for African Climate would facilitate all other USG programs seeking to address the policy problem. The author recommends pursuing new office planning as an overarching option to bolster the Department's climate diplomacy and center the multifaceted challenges in overall African strategies. Other USG institutions specifically designed for select issue areas can also provide benchmarks on the successes a dedicated team can achieve.

For example, the Special Envoy for the Sahel, established in 2020 by the Trump Administration and first led by J. Peter Pham sought to amend an overmilitarized presence in fragile regions by instead leading with well-regarded diplomacy. Ambassador-level leadership has yet to be replaced by the Biden Administration, yet regional commentators supported the move in contrast to designating more peacekeeping armed forces to the region (Pamuk, 2020) (Camara, 2021). Though ISIS-affiliated groups and the Russian-aligned Wagner mercenary Group remain destabilizing forces in the region, both the Trump and Biden Administrations have succeeded in not increasing militarized presence, instead using the new Special Envoy office, the Regional and Multilateral Affairs Bureau of Counterterrorism, and Civil-Military Engagement team at United States Africa Command to partner on governance and humanitarian policies (Matibe, 2023) (Solomon, 2020).

Prosper Africa offers more optimistic evidence for dedicated USG work on diplomacy across Africa. Established in 2019 under USAID to facilitate private sector investment and interstate trade, the initiative has proven substantial success across Administrations and numerous African countries. According to their end-of-2022 report, Prosper Africa has helped close over

1,000 investment partnerships in 50 countries; these contracts could be worth up to $65 billion in value (USAID, 2023) (AUC/OECD, 2022). Though Prosper Africa's work should be more explicitly aligned with UN climate and sustainable development goals through policy interventions like the author's second alternative, their work has provided large-scale, entrepreneurial support to African businesses.

A new Office for African Climate will facilitate implementation of other USG policies, whether proposed here or ongoing, while aligning multiple departments' missions to the Administration's stated goals to bolster climate migration resilience efforts.

Scalability/Sustainability: PRM would be a key actor advocating for the new Office for African Climate and would potentially have staff move bureaus to fill early roles in the proposed team. The Bureau for African Affairs would also need to be highly involved, as the Office and Deputy Assistant Secretary would be incorporated into their structure. However, much of this alternative's successful implementation depends not on comprehensive planning from these teams, but on alignment from top State Department leadership. Molly Phee, current Assistant Secretary for African Affairs and Julieta Valls Noyes, Assistant Secretary for PRM, will be key advocates to the Secretary and Congressional committees.

The groundwork research for this alternative is very much within PRM jurisdiction, yet its implementation requires favorable leadership conditions. Also, other offices within the Bureau for African Affairs could see the new office as an encroachment on the number of programs they currently implement. These concerns can be traced back to William Niskanen's 1971 theory that each bureaucratic office seeks to expand their own influence and budget (Tierean & Bratucu, 2009). Though the Bureau would receive additional appropriations to account for a new office, these concerns and budget oversight powers Congress exercises do lower this alternative's feasibility. Because of this, this alternative receives a 2.7 for its "PRM Administration Feasibility" score.

African countries will have little authority over this policy's implementation. Whether based in Washington or African missions, the proposed office's staff will be primarily affected by USG leadership and would be free to lead diplomacy similarly to their other State Department counterparts. Therefore, this alternative receives a 5 for its "Effective African Implementation Feasibility" score.

Applying the author's weights to the two aspects of the scalability metric, this alternative receives a 3.3/5.

Outcomes Matrix

The following matrix overviews each alternative's outcome in each evaluative criterion:

	Policy Alternatives			
	Open Work Permissions	**USG Climate Resiliency Grant Credits**	**'Slum Integration' Infrastructure Development**	**US State Dept. Office for African Climate**
Cost	**$14.3 billion** (10-year implementation)	**$7.6 million** (5-year implementation)	**$35.6 billion** (20-year implementation)	**$44.2 million** (20-year implementation)
Effectiveness	**~14 percentage point employment increase** Inconclusive evidence of employment raising quality of life	**$3.02 billion in annual resilience-dedicated funding** ~7,300 newly-directed projects	**No effect on employment** Inconclusive evidence on raising beneficiaries' quality of life	**Overarching recommendation to facilitate implementation of other programs**
Scalability	**3.1/5**	**3.7/5**	**2.1/5**	**3.3/5**

Policy Recommendation

After evaluation of each policy alternative's cost, effectiveness, and scalability/sustainability for implementation, the author recommends the client most strongly pursue innovating their grant program to concertedly address climate resiliency in funded projects with development partners; to derive the greatest impact potential, these adjustments should be made in coordination with USAID. By explicitly requiring that enterprises, NGOs, private-public partnerships, and other non-governmental organizations state how their funded projects will meet these long-term goals and creating monitoring structures that affirm such objectives are met in project implementation, the client can drive contracted initiatives towards addressing the emerging policy problem. Approximately $3 billion in annual USG financing is available for such partnerships, and the client can forcibly orient its appropriated funds in a manner that benefits African governments facing socioeconomic concerns stemming from climate migration.

This alternative has also been selected due to its low relative cost in comparison to other alternatives and higher scalability score. This reflects positives in two senses; first, the required budget for implementing the policy is a fraction of the potential investments its more deliberate reworking can enable. Second, the burden of transforming development projects to meet stated goals falls not on the African governments facing complex climate migration challenges, but on contracted partners the client and USAID coordinate with for development. The author is doubtful African communities will refuse financed initiatives devised under these new frameworks, especially if non-governmental partners engage with leadership to find best project outcomes; this raises the "Effective African Implementation Feasibility", which is a vital criterion for success.

As stated, the author also recommends the client pursue avenues to establish an Office for African Climate under the U.S. State Department's Bureau for African Affairs. As other new initiatives and State Department offices have been successful administering specific policy goals, so could a team dedicated to Continent-wide climate resilience initiatives center the issues in USG diplomacy and better engage with African project partners.

Implementation Recommendations

For the recommended policy to be effectively implemented, the author has determined several success dependencies PRM must address throughout a grant transition process:

1. US State Department and USAID leadership must be informed on the benefits and engaged in the grant credits' development process. Across PRM, the Bureau for African Affairs, and numerous fellow offices within the State Department and USAID, billions of dollars are spent on thousands of programs across the Continent. Altering the objectives for such development work will require alignment throughout these offices and must be well defended to leadership making final strategy decisions.

2. The grant credit planning team must effectively communicate and engage with both development partners and African leadership during the design process. Seeing as contracted organizations lead the on-the-ground implementation of these USG programs, their insights will be valuable when developing these changes to financing. Also, African leadership must be oft-included representatives as to how these desired outcomes are realized through the grant credit program.

3. The client must create a comprehensive evaluation system to ensure program goals are met and sustained. This is perhaps the most crucial aspect for successful implementation. The developed criteria, after being consulted to both partners and USG leadership, must effectively guide projects towards long-term socioeconomic resilience and have clear evaluation metrics. Without a convincing assessment framework, the recommended alternative's potential effectiveness will not be realized, nor will African partners see desired outcomes.

4. The client and implementing USG agencies must allow for flexible guidelines and rollout. The USGBC LEED Credit system, from which this alternative has taken considerable inspiration, has had many stages of design innovation throughout the decades. The client must also consistently assess and reevaluate their adjustments to USG grant programs to improve outcomes across the Continent.

5. In line with the previous recommendation, the credit system must not interfere with other funding priorities set out by USG agencies. The author, while selecting funding purposes found in Figure 2 via the Foreign Assistance tracker, attempted to determine which types of projects would be best suited for resiliency grant credits. However, the client and USAID have dozens of Africa-focused initiatives that align with other objectives laid out in the new Strategy Towards sub-Saharan Africa. It is essential ongoing contracted programs to build institutional security and mitigate market risks are not overly disadvantaged while instituting this policy.

6. A final assumption requires resiliency credits be established in a manner that makes them feasible in the USG grant "market". Though the funding notice adjustments must be comprehensive, there is a potential risk additional criteria for contract approval only add costs for the development partner without providing positive benefits after implementation.

Conclusion

There is an urgent need for USG, international governing institutions operating in Africa, and other development organizations to begin broader resiliency efforts to mitigate the escalating effects of climate change migration across the Continent. Without preemptive policy planning informed by evidence-based research on the emerging policy problem, the opportunity to decisively act in the 50-plus states facing growing challenges narrows. Climate change's impacts across Africa are already surfacing and will drive inevitable population movement over the next 50 years. However, the trajectory of consequences depends on the collective action garnered in response.

Through this technical report, the author has evaluated the background and potential scope of African migration due to climate-caused impacts, the stakeholders required for effective responses, and various policy platforms the US State Department can potentially pursue while leading diplomacy with African leadership. After this analysis, PRM is better prepared to advocate for increased USG attention to climate migration in growing and highly strategic countries, design innovative policy initiatives that recalibrate development partners' work, and expand the scope of advocacy to the climate crisis's effects on some of the globe's most disadvantaged populations.

By redesigning the USG contract grant notices to specifically target funding towards climate resiliency over the next decades, the client and USAID can adjust up to $3 billion in annual development spending in alignment with the climate objectives of the White House's Strategy Toward sub-Saharan Africa, Report on the Impact of Climate Change on Migration, and the United Nations' Sustainable Development Goals. Projects concertedly targeted to this mission will better center the issue in USG diplomacy and improve African preparedness for the millions of livelihoods affected.

Appendixes

Appendix 1: ID4D Program Cost Assumptions (via the World Bank Cost of Identification Systems Model)

Q. What is the population of country?	*52,000,000 (Africanaverage)*
Q. What is the average population growth rate?	*2.37*
Q. What is the average birth rate?	*3.16*
Q. What percentage of the population is rural population?	*58*
Q. What is the gross national income (GNI) per capita of the country?	*1,556*
Q. In which year will enrollments start?	*2023*
Q. By which year 90% of the eligible population should be enrolled?	*2043*
Facial Photograph	*TRUE*
Electronic signature	*TRUE*
Voice	*FALSE*
Fingerprints	*FALSE*
Iris	*FALSE*
Q. How many demographic data points will be captured during enrollment?	*5*
Please select the type of identity credential to be issued?	*Non electroniccard*
Q. Type of chip based to be used?	
Q. Card material to be used?	*Paper*
Q. Level of security in the credential	*Level1 (overt)*
Q. Will the card include mag strip?	*No*
Q. Will the card include bar code?	*1D barcode*
Is CR department linked with ID agency?	*Only infrastructureis shared*
Q. What percentage of population is eligible for national identity?	*90*
Number of regional / province level offices?	*5*
Number of district / municipality level offices?	*20*

(World Bank, 2023) (World Bank, 2023) (World Bank, 2021) (Agencie Francaise de Developpement, 2017)

Appendix 2: World Bank ID4D program inputs (African averages across all anthropological metrics)

Target coverage during enrolment phase	Working hours per day	Working days per year	Fixed enrolment station working efficiency	mobile enrolment station working efficiency	% of rural population require mobile enrolment center	Mandatory biometric update required
90%	8	250	70%	50%	20%	1
%of eligible populationto be covered during enrolment phase					*this much%of rural populationwill requiremobile enrolmentstations. Kindly note that this is % of rural populationnot entire population*	*if uponturning to certainage residentsare required to updatetheir biometricdata then 1 else 0*
no. of employee at each enrolment station	Hiring cost	Inflation				
2	5%	1.80%				
operatorand verifier	*% of total annual compensatio n*	*Average inflation for US$*				
% of people require helpdesk	out of these people, % of people registering through call center	% resolving complain through enrolmen t station	no. of operators that will be trained	Total no. of service provider agencies	Per agency no. of operators who require training	Per person IEC expenditure during enrolment phase
5%	30%	50%	125%	100	5	$ 0.50

out of total enrolled population these many people will require helpdesk for issue resolution each year		*rest of the people will use online portal for issue resolution*	*higher no. of people will be trained for enrolment*			*per person expenditure for IEC campaigns for whole enrolment period. During steady state this amount is reduced to 25%*
Software AMC cost	Request require manual deduplication	Per manual dedup time (in minutes)	Time taken per quality check			
25%	5%	10	5			
as percentage of cost of software development	*out of all the deduplication request, these many requests will require manual checking*		*Min*			
HQ office space requirement	Regional office space requirement	District office space requirement				
15,000	5,000	1,000				
sq.ft.	*sq.ft.*	*sq.ft.*				
ID to be reissued						
3%						
Due to lost or damage						

per agency per person per year authentication requests	Preferred biometric for authentication	Preferred biometric for deduplication	Per person raw data size	Per person minutiae size	Capacity of DR as compared to DC	Storage disk minimum size
0.2	1	1	4000	150	100%	10
used to estimatethe authentication volume	*0 = no biometric authentication, 1 = finger prints, 2= Iris,3 = Voice,4 = face*	*1 = finger prints, 2= Iris,3 = Voice,4 = face*	*in KB (including data update requests)*	*in KB*		*in tb*
No . of core in webserver	no. of core in database server	no. of core in application server	Hardware AMC	Web server capacity (no. of request per second per core)	Application server capacity (no. of requests per core per second)	Data base server capacity (no. of request per core per second)
16	16	16	15%	3000	100	300
			as % of total cost of hardware		*1 request is equivalentto one fingerprint authentication request*	
Finger print deduplication matches per core per second	Iris deduplication matches per core per second	Face deduplication matches per core per second	Voice deduplication per core per second			
37500	2500	1250	1250			
for two finger biometric deduplication						

Reduction in infrastructure cost due to shared infra	Reduction in Human Resources cost due to shared human resource					
30%	30%					
IFCRVS and ID agency are sharing infrastructure, then infra structure will be reduced by this %	*IFCRVS and ID agency are sharing HR then infra structure will be reduced by this %*					

Appendix 3: US Federal Salary and Step Calculations for 20-Year Implementation of US State Department Office for African Climate

Class 6 Officers (2):

((42,570*2) +((42,570*1.03) *2) +((43,847*1.03) *2) +((45,162*1.03) *2) +((4,6516*1.03) *2) +((49,307*1.03) *2) +((50,787*1.03) *2)+((52,310*1.03) *2)+((53,880*1.03) *2) +((55,496*1.03) *2)) = 991,282

991,282*2= 1,982,565

Class 5 Officers (2):

((47,619*2) +((47,619*1.03) *2) +((49,047*1.03) *2) +((50,518*1.03) *2) +((52,033*1.03) *2) +((53,594*1.03) *2) +((55,202*1.03) *2) +((56,858*1.03) *2) +((58,564*1.03) *2) +((60,320*1.03) *2)) = 1,091,773

1,091,773*2 = 2,183,546

Class 4 Officers (3):

((58,767*2) +((58,767*1.03) *2) +((60,530*1.03) *2) +((62,345*1.03) *2) +((64,216*1.03) *2) +((66,142*1.03) *2) +((68,127*1.03) *2) +((70,170*1.03) *2) +((72,275*1.03) *2) +((74,444*1.03) *2)) = 1,347,386

1,347,386*3 = 4,042,160

Class 3 Officers (3):

((72,526*2) +((72,526*1.03) *2) +((74,701*1.03) *2) +((76,942*1.03) *2 ((79,251*1.03) *2) +((81,628*1.03) *2) +((84,077*1.03) *2) +((86,599*1.03) *2) +((89,197*1.03) *2) +((91,873*1.03) *2)) = 1,662,848

1,662,848*3 = 4,988,542

Class 2 Officers (2):

((80,505*2) +((80,505*1.03) *2) +((82,920*1.03) *2) +((85,407*1.03) *2) +((87,969*1.03) *2) +((90,608*1.03) *2) +((93,327*1.03) *2) +((96,127*1.03) *2) +((99,010*1.03) *2) +((101,981*1.03) *2)) = 1,845,789

1,845,789*2 = 3,691,578

Class 1 Officers (2):

((110,460*2) +((110,460*1.03) *2) +((113773*1.03) *2) +((117187*1.03) *2) +((120702*1.03) *2) +((124323*1.03) *2) +((128053*1.03) *2) +((131895*1.03) *2) +((135851*1.03) *2) +((139927*1.03) *2)) = 2,532,592

2532592*2 = 5,065,184

Deputy Assistant Secretary

(165,000*2) +((165,000*1.03) *2) +((169,950*1.03) *2) +((175,048*1.03) *2) +((180,299*1.03) *2) +((185,708*1.03) *2) +((191,280*1.03) *2) +((197,018*1.03) *2)+ (200,000*2) +(200,000*2)) = 3,374,464

Overall, 15-person Office's salaries over a 20-year implementation would cost $25,328,038.

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