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# **Tracking subnational government investments in climate change mitigation and adaptation in Kenya**

Progress, opportunities and challenges  
report

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# Executive summary

Public expenditure to address climate change is one of the surest ways of reaching the most vulnerable. Addressing climate change calls for appropriate investments delivered through government programmes across various sectors. People in poverty are likely to be left behind in the absence of appropriate and adequate investments targeted at building resilience and reducing greenhouse gas emissions.

In this report, we review the progress being made in climate change investment through budget allocations between 2016/17 and 2018/19 financial years by county governments in Kenya. We focus on four counties: Baringo, Kisumu, Laikipia and West Pokot.

Recent studies are increasingly applying the Organisation for Economic Co-operation and Development and the Development Assistance Committee (OECD-DAC) marker to review budget allocation for climate change. While we follow this methodology, we also review county climate change policy and institutional frameworks for completeness.

While tracking investment for climate change may not provide the full picture without quantified needs requirement at the county level, it can serve as an input for future investment gap analysis.

The main challenges of tracking budget for climate change at county level are availability of adequate budget breakdown and quality of existing budget data. Budgets are not broken down by 'source'. It was not possible to determine if the amounts indicated in the budget documents were sourced domestically or externally. Budget items are also not well disaggregated. Categorisation is informed by broader sub-programmes rather than programmatic activities. Furthermore, some inconsistencies have been spotted where, for instance, a particular allocation in a county's budget document is referred as 'recurrent' expenditure in the main text, but the same budget item amount is indicated as 'development' budget in the budget document's annex section.

Our analysis shows addressing climate change is increasingly being mainstreamed in county budgeting and planning processes. However, progress is slowed by financial, technical and policy related challenges. The key highlights from the analysis are:

## Key findings

### Subnational targeting of climate change investment

- Vulnerability to climate change in the four counties is driven by high poverty levels, reliance on climate-sensitive livelihoods and rapid population growth.
- Climate change investments constitute just over 6% of the county budgets in Kisumu and Laikipia and 8% in West Pokot and Baringo. Annual investment in climate

change on average amounts to KES 614.7 million in Kisumu, KES 528.7 million in Baringo, KES 417.1 million in West Pokot and KES 269.5 million in Laikipia.

- Over two-thirds of investment in climate change interventions is on adaptation. These allocations are aligned to the country's focus, which as in many African countries, prioritises climate change adaptation over mitigation measures.
- Investment in forestry and alternative energy sources are the main mitigation strategies in the four counties. However, better enforcement of forestry legislation and adequate funding for alternative energy interventions is required to support progress in implementation of forestry and alternative energy projects.

## Recommendations

### County level finance support mechanisms

- County climate change funds (CCCFs) should be established to provide a reliable mechanism for financing priority climate change actions. This calls for political will at the county executive and assembly levels, as well as provision of technical support to counties for effective functioning of CCCFs.
- County governments should strengthen mobilisation of own source revenue (OSR) to bridge the funding gaps.
- Strengthen own source revenue mobilisation in counties to bridge the funding gaps that impede implementation of CC actions.
- Establish county climate change funds to finance priority climate change actions at county level.

### Strengthen data and legal framework

- Fast track finalisation of the draft Public Finance Management (Climate Change Fund) Regulations, 2018 to operationalise the National Climate Change Fund.
- Improve enforcement of forestry laws and regulations to facilitate rapid progress in forestry development as a mitigation strategy.
- A national system for regular collection and analysis of the impacts of climate change and the effectiveness of climate finance should be established.
- Enhance mainstreaming of climate change mitigation into various sectors at county level to ensure sustainable development.

### Calls to action at household, county and national level

- **Define** the roles and responsibilities of national and county governments in tracking and monitoring the impacts of climate finance.
- **Strengthen** the capacity of county governments to collect and analyse data on climate change impacts and the outcomes of climate change investments.
- **Fund** use of clean alternative energy interventions that are aimed at enhancing access at household level and alleviate the health risks associated with using fossil fuels.

# Introduction

**Climate finance has a pivotal role to play in supporting the world's poorest and most vulnerable countries to transition to a low carbon and climate resilient development regime.** The call for enhanced mobilisation of climate finance is informed by the fact that many of the actions required to curb greenhouse gas emissions (GHG) and to build resilience to the effects of climate change come with significant upfront costs. Climate finance refers to all forms of financial support drawn from various sources that are earmarked for promoting low-carbon and climate resilient development.<sup>1</sup> These include domestic budget allocations – the focus of this report – grants and loans from development partners and investments from the private sector.

**Climate change in Kenya is unequivocal and the impact is borne disproportionately by the poorest households.**<sup>2</sup> Extreme weather events such as droughts and floods are increasing in frequency and magnitude, putting human health and socioeconomic development at risk. Climate change caused an average of 56.7 deaths and gross domestic product (GDP) losses of 0.33% annually between 1998 and 2017 in Kenya.<sup>3</sup> Furthermore, climate change has negative implications for poverty eradication as it constrains food production and the long-term viability of key livelihood activities of people in poverty such as farming, fishing, livestock production and small-scale trade. Kenya's economy depends on climate-sensitive sectors such as agriculture, water, energy, tourism and transportation.<sup>4</sup> Thus, climate change is likely to impede achievement of Kenya's Vision 2030 – the long-term national development blueprint – and the Big Four Agenda<sup>5</sup> that aims to ensure access to affordable housing, universal health coverage, food security and an increase in the share of manufacturing in GDP to 15% by 2022.

**Kenya's commitment to the fight against climate change is demonstrated by its enacted laws and policies, as well as its support for global and regional adaptation and mitigation initiatives.** Kenya is party to the Paris Agreement (2015) and the United Nations Framework Convention on Climate Change (UNFCCC).<sup>6</sup> At the national level, legislation, policies and plans such as the Climate Change Act, 2016 and the National Climate Change Response Strategy, 2010 have been enacted to facilitate a seamless transition to a low-carbon and climate resilient development pathway.<sup>7</sup>

**The national and county governments share the responsibility of investing in climate change adaptation and mitigation.** The national government provides an overarching policy framework, facilitates mobilisation of funds and coordinates climate change investments. County governments, as the first point of contact with affected populations, play a pivotal role in planning for climate change adaptation and mitigation, as well as mobilising the resources needed to implement their priority climate change actions. To this end, it is critical to assess the progress being made by county governments towards improved investment in climate change actions with the objective of providing recommendations for improvement.

**The objective of this report is threefold:** (a) to assess the progress in climate change investment at subnational level through county budget allocations; (b) to identify the challenges facing investments in climate change; (c) to provide recommendations to inform county level plans, policies and strategies related to climate change investment.

**This report sheds light on the progress in public investment in climate change by county governments in Kenya to inform climate change and climate finance policies.** A related analysis was done by the government of Kenya with a focus on climate expenditure in Bungoma, Laikipia and Isiolo counties for the period 2013/14 and 2014/15 fiscal years.<sup>8</sup> Our work adds value by considering three other counties for the period 2016/17 to 2018/19. The counties considered in this report are Kisumu, Baringo, West Pokot and Laikipia while the analytical approach follows the OECD-DAC policy marker methodology. The analytical approach is also informed by the climate public expenditure and institutional review (CPEIR) methodology. The selection of the four counties is informed by data availability and vulnerability to climate change.

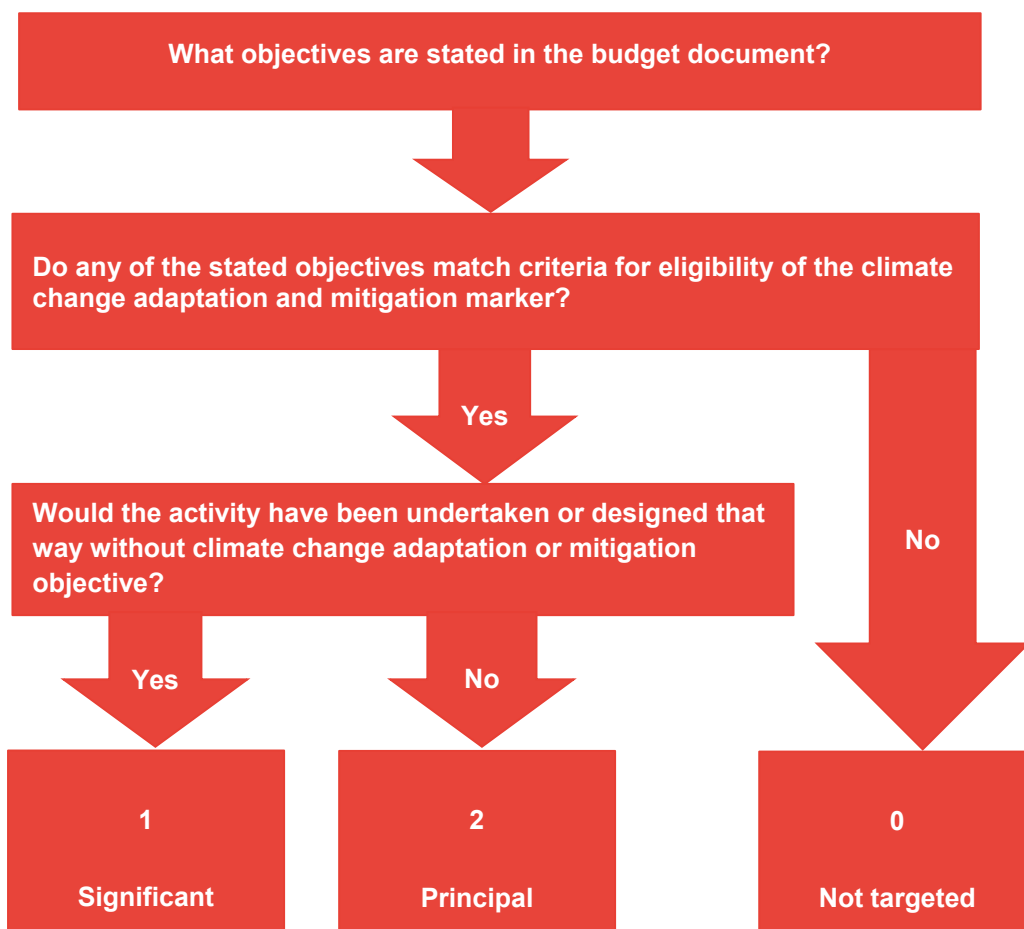
**Climate change investments in Kenya are funded through several sources.** These include domestic revenue raised by national and county governments, UNFCCC's climate funds, domestic and international private sector, and bilateral official development assistance. This report covers only climate change investments made by county governments and funded through revenue received and controlled by counties from the national government equitable share and conditional grants,<sup>9</sup> as well as OSR mobilised by counties. The conditional grants include funding from development partners received through the national government and are earmarked for specific activities such as support for universal health coverage or climate smart agriculture. Off-budget investments in climate change-related activities by development partners and the private sector (domestic or international) are not covered.

# Methodology

**Climate change budget analysis in this report is based on the OECD-DAC marker and the CPEIR methodology to identify the extent of climate change investments in select counties.** The OECD-DAC marker is a tool for recording investments in projects or activities that target climate change adaptation and mitigation as a policy objective. The marker facilitates tracking, measuring and reporting on the level of climate change mainstreaming in public spending plans. Results of the analysis are interpreted as estimated quantifications of spending plans that explicitly or implicitly support achievement of climate change mitigation and adaptation objectives.<sup>10</sup> Applying the OECD-DAC marker guidelines, we systematically screened county budgets for the period 2016/17 to 2018/19 to understand the extent to which climate change adaptation and mitigation investments are budgeted for in various sectors. A programmatic activity is classified as climate change adaptation if its objective is to reduce the vulnerability of human and natural systems to the current and future expected impacts of climate change by maintaining or improving resilience. On the other hand, an activity is classified as climate change mitigation if its objective is to contribute to reduction of GHG emissions or enhance GHG sequestration.

**A three-point scoring system is used to screen and mark activities.** A programme activity that has climate change as its principal objective is marked as 2; a budget line activity that is significantly related to climate change but not designed specifically with a climate change adaptation or mitigation objective is marked as 1; while those not targeting climate change mitigation or adaptation are scored 0. To this end, spending activities that consider climate change mitigation and adaptation as the main (principal) objective are marked 'principal investment' and assigned 100% of the total budgeted value. On the other hand, activities that consider climate change adaptation and mitigation as a secondary or significant objective are marked as 'significant investments' and are assigned 40% of the total planned spending. Thus, climate change investment is equivalent to the total of principal and significant investments. Figure 1 illustrates the scoring approach based on the climate change policy marker.

Figure 1: Decision tree for scoring an activity against the climate change marker



Source: OECD-DAC

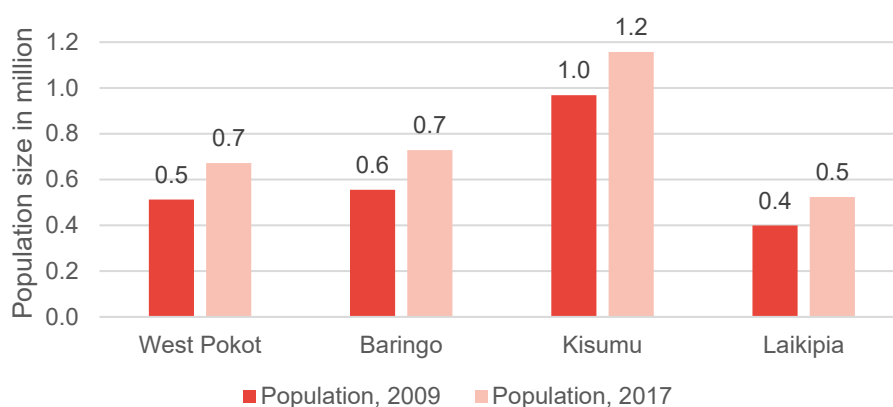
**The CPEIR is a diagnostic tool for analysing the challenges and opportunities for mainstreaming climate change in national and subnational budget and expenditure processes.** The CPEIR has three components namely, policy analysis, institutional analysis and climate public expenditure analysis. To supplement the public budget analysis based on the OECD-DAC marker, we use the CPEIR to analyse the institutional and policy framework that underpins climate change investment. The aim of this analysis is to identify the progress being made in establishing an effective policy and institutional framework that supports climate change investment, as well as the challenges being faced to provide recommendations for improvement.



# County profiles

**Rapid population growth constrains access to natural resources such as land, water and pasture which the majority of the residents of the four counties of focus depend on for their livelihoods.** Based on the 2009 census, the population of Laikipia, West Pokot and Baringo is projected to have increased by 31% between 2009 and 2017 – significantly higher than the national projection of 22% – due to high fertility rates. In Kisumu, which has the largest population of the four counties (Figure 2) population is projected to have increased by 20%. Fertility rates stand at 7.2 births per woman in West Pokot and 4.8 births per woman in Baringo, which is higher than the national average of 3.9. In Laikipia and Kisumu, the fertility rates stand at 3.7 and 3.6 births per woman respectively.<sup>11</sup> The rapid increase in human population has increased the number of users of open access water sources and pasture areas, leading to overgrazing and resource-based conflicts which in turn exacerbate vulnerability to climate change.<sup>12</sup> Furthermore, the already scarce farmlands have to be subdivided as the population increases, leading to smaller and overused pieces of land. Given that at least 70% of the households in the four counties use wood fuel/ charcoal for cooking, an increase in population is likely to exacerbate deforestation and vulnerability to climate change in the future.<sup>13</sup>

**Figure 2: Population size in 2009 and 2017**



Source: Development Initiatives (DI) based on KNBS data -Statistical Abstract, 2018

Notes: 2017 figures are projections based on the 2009 census

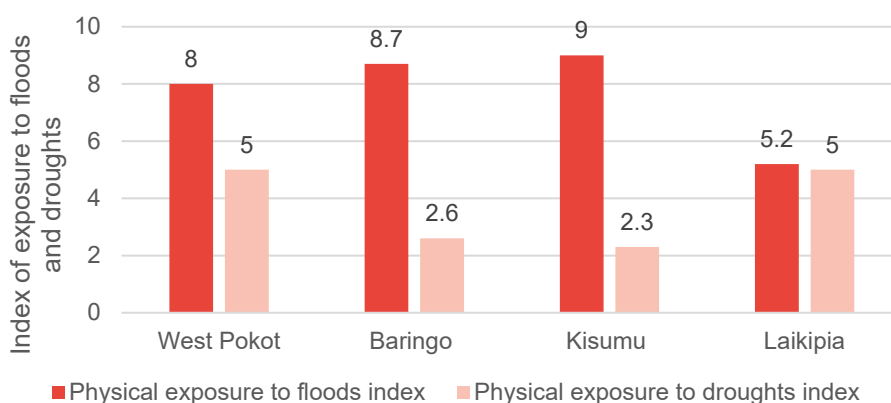
**Households in the four counties rely heavily on climate-sensitive livelihoods, which increases their vulnerability.** Over 70% of the households in the four counties depend on rainfed agriculture and livestock production as their main sources of income, food and nutrition security. The sustainability of these livelihoods is under threat due to

climate variability, especially in Laikipia, Baringo and West Pokot which are classified as semi-arid lands counties.<sup>14</sup>

**Physical exposure to floods is very high<sup>15</sup> in Kisumu, Baringo and West Pokot, whereas exposure to droughts is high in Laikipia and West Pokot (Figure 3).**

Droughts impede agricultural production, leading to food and nutrition insecurity. Floods not only destroy farmlands and livestock, but also damage critical infrastructure such as roads and facilities such as hospitals, thereby exacerbating household vulnerability.

**Figure 3: Physical exposure to floods and droughts index, 2015**

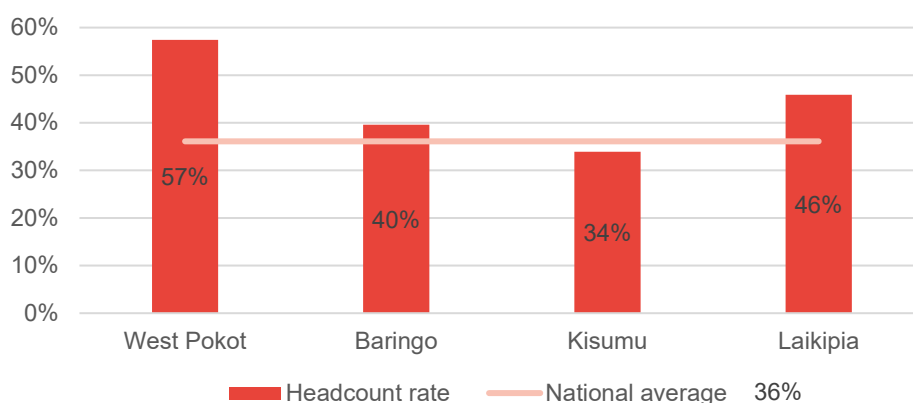


Source: DI based on INFORM data, 2015

Notes: The index ranges from 0 to 10 and interpreted as very high (6.9 to 10); high (4.7 to 6.8); medium (2.8 to 4.6); low (1.3 to 2.7); and very low (0.0 to 1.2). See note 15 for more details.

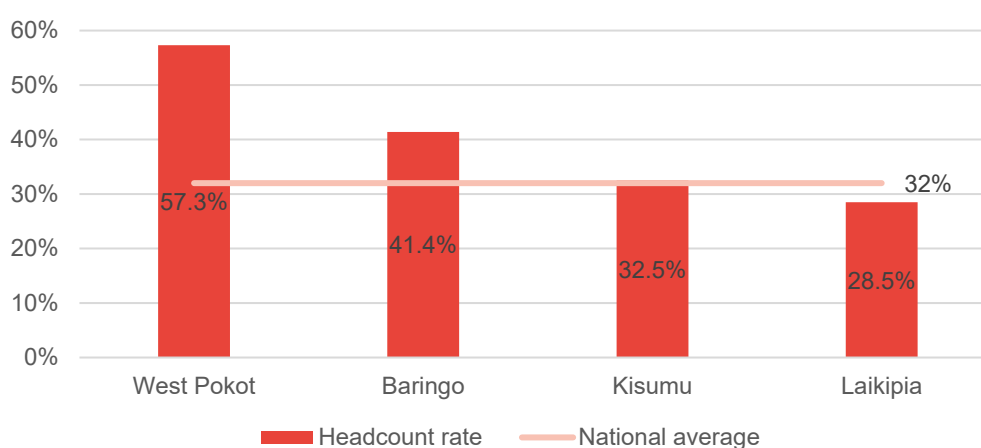
**Over a third of the populations in the four counties are income poor (Figure 4).** With the exception of Laikipia, over 30% of the populations are food poor – not able to afford or access adequate food for a healthy diet (Figure 5). Malnutrition is evidenced by the prevalence of stunting which stands at 23.9% in Kisumu, 30% in Baringo, 33.1% in Laikipia and 41.2% in West Pokot.<sup>16</sup> With the exception of Kisumu, the level of stunting is higher than the national average which stands at 29.9%. Income poverty contributes to increased vulnerability to climate change and food insecurity to the extent that it limits access to the resources needed by households to adapt to climate change and access food. Climate change, on the other hand, perpetuates poverty and food insecurity by constraining crop and livestock production, which are the main livelihood activities in the four counties.

**Figure 4: Income poverty by county, 2015/16**



Source: DI based on KNBS data – KIHBS, 2015/16

**Figure 5: Food poverty by county, 2015/16**

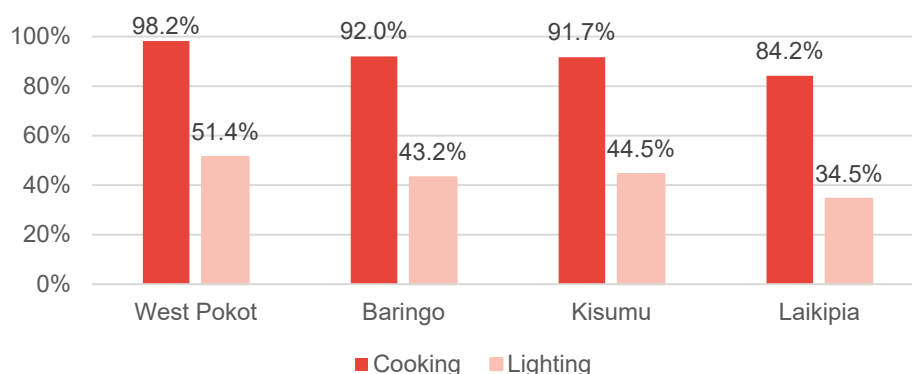


Source: DI based on KNBS - KIHBS, 2015/16

**With the exception of Laikipia, over 90% of households depend on fossils such as wood fuel and charcoal for cooking, which is above the national average of 83.5% (Figure 6).** In addition, over 40% of households in West Pokot, Baringo and Kisumu rely on petroleum fuels such as paraffin for lighting, which is above the national average of 37.3%. Heavy reliance on wood fuel and charcoal for cooking exacerbates the destruction of forests/trees which are major carbon sinks. Furthermore, use of wood and paraffin leads to GHG emissions and causes respiratory diseases. Increased emissions coupled with the destruction of forests means that future generations are likely to be more exposed to climate related hazards such as floods and the negative implications that they have for livelihoods and human health.

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**Figure 6: Proportion of households using fossil fuels for cooking and lighting purposes, 2015/16**



Source: DI based on KNBS – KIHBS, 2015/16

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**A full-scale assessment of the social and economic impacts of climate change is constrained by lack of up to date and disaggregated data on the number of people affected and the extent of the damage caused.** Furthermore, there is limited availability of data on the impacts of climate finance at the county level. This is attributed in part to inadequate technical staff and financial resources to support the monitoring, reporting and analysis of the impacts of climate change and the effectiveness of climate finance at the county and national level.<sup>17</sup> Lack of data means the populations at risk will remain invisible and their needs will not be considered in climate change investments.

# Policy, legal and institutional framework analysis

**Climate change investments are underpinned by international, regional, national and county legal and policy frameworks.** At the international level, the Paris Agreement reached in 2015, provides the basis for development of regional and national climate change policies and legislation. The Paris Agreement mandates parties to aim towards holding global temperatures well below 2°C above pre-industrial levels and to implement measures to cap temperature increase to 1.5°C above pre-industrial levels. Accordingly, Kenya developed its Nationally Determined Contribution (NDC) in 2016 to support global efforts to reduce GHG emissions. Kenya's GHG emission level is estimated to be 70 MtCO<sub>2e</sub> in 2010 – about 0.1% of total global emissions. The NDC sets a target of abating GHG emissions in Kenya by 30% by 2030 relative to the business as usual scenario of 143 MtCO<sub>2e</sub>.<sup>18</sup> Achievement of this target is hinged on financial and technological support from development partners. Under the Paris Agreement, developed countries have committed to mobilise at least US\$100 billion annually to support implementation of climate change actions in developing countries such as Kenya. Following the development of the NDC, the national and county governments have been implementing various mitigation projects including reforestation and development of renewable energy sources. However, the contribution of these interventions to reduction in GHG emissions is yet to be fully understood due to lack of data.<sup>19</sup>

**Kenya developed the National Green Climate Fund Strategy that provides a roadmap for harnessing the resources from the Green Climate Fund (GCF).** GCF is a financing mechanism under the UNFCCC that Kenya can leverage to supplement its climate finance. The mechanism has been established to support reduction of GHG emissions and build resilience to climate change impacts in developing countries. As at August 2017, the National Treasury, which is responsible for administering the fund in Kenya, had received 15 proposals and five concept notes for funding.<sup>20</sup> Of these, three proposals had been approved for funding. Another funding opportunity available under the UNFCCC is the Global Environment Facility (GEF). The GEF provides financing to climate change mitigation and adaptation projects prioritised at the country level.

**At the regional level, policy frameworks developed under the Africa Union and the East African Community (EAC) shape climate change investments in Kenya.** These include the African Climate Change Strategy, 2011 and the East Africa Community's (EAC) Climate Change Policy, strategy and master plan, 2011. Furthermore, the EAC Protocol on Environment and Natural Resources Management has been developed to

guide the partner states in their cooperation in matters related to environment and natural resource management within their jurisdictions.<sup>21</sup>

**At the national level, climate finance is underpinned by a range of policy and legal frameworks covering public finance and climate change, as well as sectoral policies that have an implication for climate change mitigation and adaptation.**

Climate finance mobilisation is supported by the Constitution of Kenya, 2010; Public Finance Management (PFM) Act, 2012; Climate Change Act (CCA), 2016; National Policy on Climate Finance, 2018; national and county government tax legislations; Kenya National Green Climate Fund Strategy and Climate Change Policy, 2018.

**The Constitution of Kenya, 2010 provides the basic principles and framework that form the foundation of public finance management, which in turn informs mobilisation and spending of climate finance.**

Chapter 12 of the Constitution includes provisions for equitable sharing of national revenue, public participation in decision-making processes related to public finance management, public borrowing, powers to raise revenue, budgeting/spending, and financial control.<sup>22</sup> These provisions are implemented through the PFM Act that regulates public budgeting processes, borrowing and debt management, as well as financial reporting and accounting to ensure effective and efficient management of public financial resources.<sup>23</sup>

**A national climate financing mechanism has been established, which is yet to be operationalised.**<sup>24</sup> The Climate Change Act, 2016, establishes the Climate Change Fund (CCF) to finance priority climate change interventions and incentives approved by the Climate Change Council, as well as provide technical assistance to county governments.<sup>25</sup> Operationalisation of the CCF is a key priority of the second National Climate Change Action Plan (NCCAP) which is to be implemented in the period 2018–2022. As of July 2018, the National Treasury had prepared draft Public Finance Management (Climate Change Fund) Regulations to operationalise the CCF.

**Coordination of climate finance mobilisation and tracking its impacts is underpinned by the CC Act and the National Policy on Climate Finance (NPCF), 2018.** The CC Act designates the Climate Change Directorate (CCD) as the lead agency in coordinating climate change interventions while the National Treasury leads in coordination of climate finance activities. The NPCF aims to create an integrated platform that brings together various stakeholders and facilitate strengthening of institutional capacity to track the impacts of climate finance.<sup>26</sup> Such efforts require political will and effective enforcement of accountability standards to facilitate timely reporting and accounting for climate finance received and utilised by the national and county governments, as well as civil society organisations.

**At the county level, technical support is required to establish a robust legal framework including county climate fund regulations that address the local climate change investment needs.** None of our four counties of focus has created a county CCF to finance their climate change adaptation and mitigation priorities. Best practice examples can be drawn from Makueni and Wajir counties which enacted county CCF legislation in 2015 and 2016 respectively. In Makueni, the CCF legislation mandates the county government to invest 1% of its annual development budget in climate change

interventions. In Wajir, the county CCF legislation mandates the government to allocate a minimum of 2% of revenue from national government, climate finance from international sources, grants and donations from development partners, fees and charges from climate finance activities to adaptation and mitigation projects.<sup>27</sup> Investment projects supported by the county CCFs are identified and prioritised by ward level committees consisting of elected community members who have adequate understanding of the local context in terms of climate change adaptation needs. Establishing county CCF is an opportunity for counties to mobilise and earmark adequate funding for their priority climate change actions.

**Weak enforcement of taxation policies and legislation impedes collection of adequate revenue to finance various development priorities including mitigation and adaptation to climate change.** For instance, in 2017/18 collection of OSR decreased in Kisumu, West Pokot and Laikipia.<sup>28</sup> Additionally, OSR constitutes just 1.9% and 5.5% of total revenue in West Pokot and Baringo respectively.<sup>29</sup> In Kisumu and Laikipia the share of OSR in total revenue stands at 12.6% and 10.5% respectively – slightly below the national average of 12.7%. The key challenges to mobilisation of OSR include leakages attributed to weak internal controls, poor coordination of OSR collection, delays in passing county finance bills and low capacity of county governments to enforce revenue collection measures.<sup>30</sup>

**Major progress is being made at the national and county level to mainstream climate change in sectoral planning and budgeting as required by the CC Act. However, implementation of priority interventions is slow.** The NCCAP and the County Integrated Development Plans (CIDPs) are the mechanisms for implementing climate change interventions at national and county level respectively. These five-year plans set the priority areas for climate change-related investment, which in turn informs annual budgetary allocations. In the selected four counties, climate change adaptation and mitigation measures have been integrated in the second generation CIDPs covering the period 2018–2022. And the second NCCAP has integrated the national climate change adaptation and mitigation objectives. While this is laudable, experience shows that implementation of these plans is slow. For instance, the first NCCAP that covered the period 2013–17 had nine mitigation measures and 29 enabling actions – measures that facilitate achievement of mitigation and adaptation targets. However, as of May 2017 – the last year of the plan – only three of the nine mitigation actions had been completed while the rest were in progress. Similarly, only three of the 29 enabling actions had been implemented fully, whereas no progress had been made in implementing seven of the actions. 19 of the enabling actions were in progress and most of them have been carried over to the second NCCAP.<sup>31</sup> At the county level, achievement of climate change adaptation and mitigation targets is constrained by inadequate human resources, insufficient funding and technological constraints.<sup>32</sup>

**The institutional framework that supports climate change investment consists of both national and county level departments and agencies with a finance and climate change mandate.** The National Treasury is the lead agency in coordinating and overseeing implementation of climate finance strategies and policies.<sup>33</sup> The National Treasury has also been designated as Kenya's lead agency for accessing the GCF while the National Environment Management Authority (NEMA) has been accredited as the

national implementing entity to the GCF. The National Treasury is supported by other departments of the national government such as the CCD and NEMA which provide technical support on climate change issues. At the county level, the county treasuries play a lead role in implementation of climate finance mobilisation strategies and policies. A key challenge to effective functioning of these institutions is inadequate expertise in areas such as evaluating and selecting the most appropriate financing instruments, as well as limited knowledge on available funding opportunities.<sup>34</sup> There is also inadequate coordination between national and county governments.<sup>35</sup> This leads to duplication of roles and inefficiencies in the implementation of climate change projects.

**Underfunding coupled with misappropriation of public funds is a key impediment to effective and efficient functioning of the existing institutional framework.**

Inadequate funding has negative implications for implementation of climate change actions. For instance, a review of the implementation of Baringo's annual development plan for 2017/18 reveals that implementation targets for several projects in the environment, water, transport infrastructure and agriculture sectors were not achieved because the funding was either inadequate or the funds allocated to the projects were reallocated to other sectors through supplementary budgets.<sup>36</sup> Misappropriation of funds due to weak enforcement of fiduciary/accountability standards in public finance management means that the benefits of climate finance are not reaching the poorest and most vulnerable populations. For instance, in Kisumu County in the 2016/17 financial year, the report of the Auditor General shows that a contract for constructing a community water pan worth KES 5.7 million was fully paid for but the project was not fully implemented as per the contract.<sup>37</sup>



# Analysis of climate change investments

## Overview of climate change investment

**A total of 211 activities/sub-programmes with a climate change consideration have been identified in the four counties.** These are managed by various departments/units that mainstream climate change in their functions and operations (Table 1). The departments responsible for water, environment and natural resources account for at least 30% of the climate change investments in Kisumu, Baringo and Laikipia. These departments account for 27.7% of climate change investments in West Pokot.

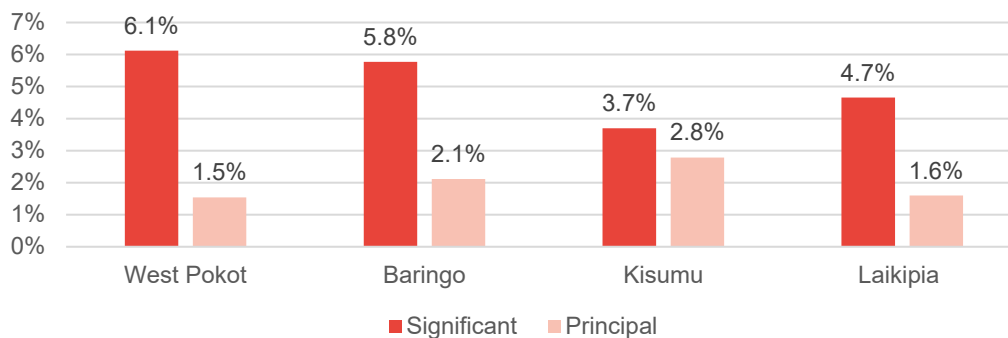
**Table 1: Departments with climate change investments**

County	Number of county departments	Departments with a climate change investment	Sub-programmes/activities		
			Significant	Principal	Total
Kisumu	9	9	48	26	<b>74</b>
West Pokot	10	8	23	7	<b>30</b>
Baringo	9	8	44	11	<b>55</b>
Laikipia	8	7	38	14	<b>52</b>

**Climate change investments constitute just over 6% of the county budgets in Kisumu and Laikipia and 8% in West Pokot and Baringo.** Splitting the investments into principal and significant components reveals that investments marked principal constitute less than 3% of the county budgets in all the four counties (Figure 7). In Kisumu and Baringo, climate change investments between 2016/17 and 2018/19 fiscal years amount to KES 1.8 billion and KES 1.6 billion respectively. On average this amounts to an investment of KES 614.7 million and KES 528.7 million per year in Kisumu and Baringo respectively. In West Pokot and Laikipia, the cumulative investment in climate change over the three fiscal years is KES 1.3 billion and KES 0.8 billion

respectively. This amounts to an average investment of KES 417.1 million and KES 269.5 million in West Pokot and Laikipia respectively.

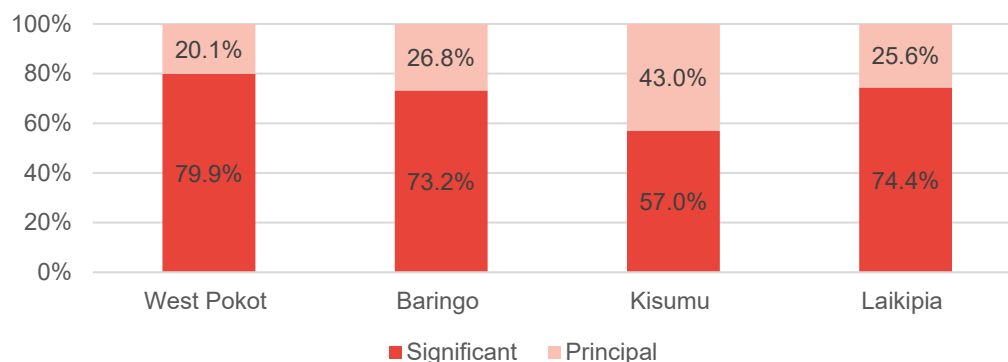
**Figure 7: Share of significant and principal components in overall county budgets, 2016/17–2018/19**



Source: DI, based on county budget data for various years

**At least 70% of climate change investments go to activities in which climate change mitigation and adaptation is a significant but not a principal policy objective in West Pokot, Baringo and Laikipia (Figure 8).** In Kisumu, the share of the significant component is just over half of climate change investments. On the other hand, investments marked principal constitute just over a quarter of the total climate change investments in Baringo and Laikipia. In West Pokot, investments marked principal account for a fifth of the total climate change investments. In Kisumu, the share of the principal component is much larger (43%) compared with the other three counties (Figure 8). This is attributed to significant investments in environment protection, as well as small-scale irrigation infrastructure in the county.

**Figure 8: Share of principal and significant components in total climate change investments, 2016/17–2018/19**



Source: DI based on county budget data for various years

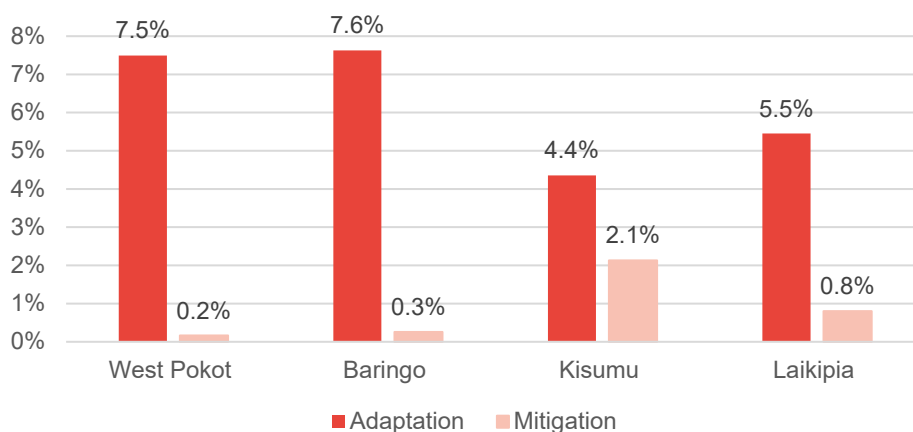
## Investment in climate change adaptation and mitigation

Adaptation is the main priority in Kenya, informed by the fact that despite being a low GHG emitter the country disproportionately bears the brunt of climate change.<sup>38</sup> Historically, Kenya has had little contribution to climate change given that its past and current GHG emission levels are insignificant compared with global emission levels.<sup>39</sup> However, Kenya is highly vulnerable to the impacts of climate change which are already being experienced in various sectors of the economy. To this end, the first NCCAP considered climate change adaption to be the main priority of the country. This priority is reflected in the second NCCAP which is geared towards achievement of low-carbon and climate resilient development in ways that prioritise adaptation. At the county level, investment in adaptation is expected to enhance the resilience of vulnerable groups such as women, youth and people with disabilities to the impacts of climate change.

## Share of adaptation and mitigation in county budgets and total climate change investments

Splitting climate change investments made between 2016/17 and 2018/19 fiscal years into mitigation and adaption components reveals that the share of adaptation in county budgets is much higher than mitigation in all the four counties (Figure 9). However, the share of adaptation investments in total county budget is higher in Baringo and West Pokot compared with Kisumu and Laikipia (Figure 9).

**Figure 9: Share of adaptation and mitigation in total county budgets, 2016/17–2018/19**



Source: DI based on county budget data for various years

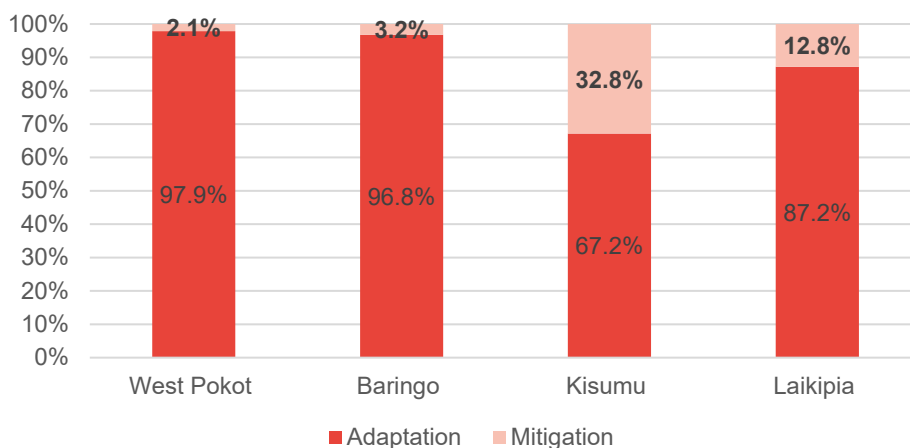
**County budget allocation is aligned to Kenya's priority on adaptation in the four counties.** Adaptation constitutes over two-thirds of the total climate change investments in the four counties and its share is much larger in West Pokot and Baringo. Specifically, the share of adaptation in climate change investment is just under 100% in West Pokot and Baringo (Figure 10). The average investment in adaptation per year in West Pokot

and Baringo is KES 408.1 million and KES 511.5 million respectively. This amounts to KES 1.22 billion and KES 1.53 billion in West Pokot and Baringo respectively over the three budget cycles. In Laikipia, investment in adaptation amounts to KES 0.7 billion over the three fiscal years and an average investment of KES 234.9 million per year. Cumulatively, investment in adaptation in Kisumu amounts to KES 1.23 billion over the three budget cycles and KES 412.9 million a year on average.

**Compared with other counties, Kisumu has a much larger investment in mitigation.**

Investment in mitigation in Kisumu amounts to KES 201.9 million on average per year and a total of KES 605.7 million over the three budget cycles. This is explained in part by the county’s heavy investment in waste management and use of renewable energy, especially within Kisumu City. The urbanisation rate in Kisumu is estimated to be 51% in 2009 – significantly higher than the national average of 31%.<sup>40</sup> Nationally, Kisumu is one of the five counties that have reached an urbanisation rate of 50%. In the last decade, increase in population and rapid urbanisation contributed to environmental degradation within Kisumu City.<sup>41</sup> Accordingly, environment protection through effective waste management became a priority mitigation action in the county government’s planning and resource allocation decisions. In West Pokot and Baringo investment in mitigation amounts to KES 26.8 million and KES 51.5 million respectively over the three fiscal years. This means the annual average investment in mitigation is KES 8.9 million and KES 17.2 million in West Pokot and Baringo respectively. The cumulative investment in mitigation in Laikipia is KES 103.7 million, which on average is KES 34.6 million a year.

**Figure 10: Share of adaptation and mitigation in total climate change investments, 2016/17–2018/19**

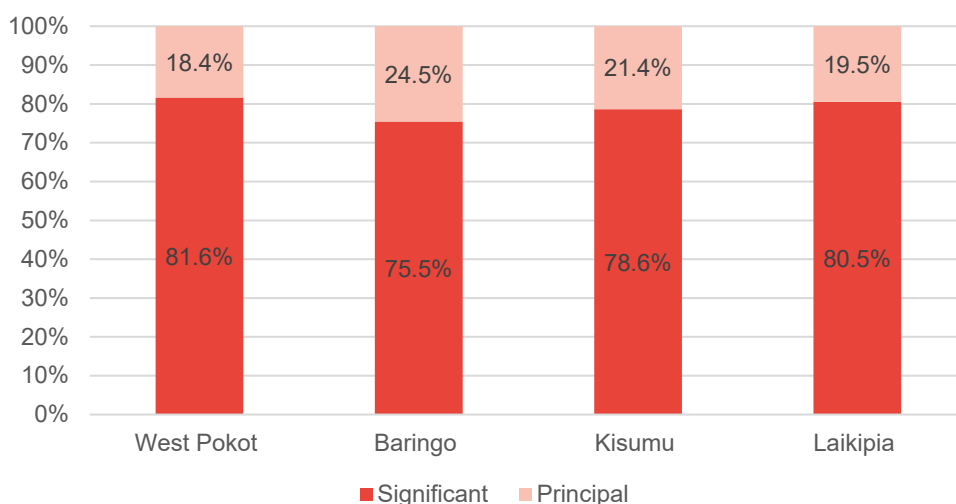


Source: DI based on county budget data for various years

## Relative shares of principal and significant components in climate change adaptation and mitigation investments

In all the four counties, over three quarters of adaptation investments go to activities in which climate change adaptation is a significant (investments marked significant) but not a principal objective (Figure 11). This means that although the investments are expected to contribute to climate change adaptation, their principal (main) objective is to achieve other socio-economic development goals such as enhanced food production or access to water services. Adaptation interventions are spread across several departments, with significant investments being made in departments responsible for infrastructure, environment, water, agriculture and irrigation.<sup>42</sup> While this ensures that adaptation actions are mainstreamed in most sectors, inadequate coordination across departments impedes effective implementation of adaptation actions.<sup>43</sup>

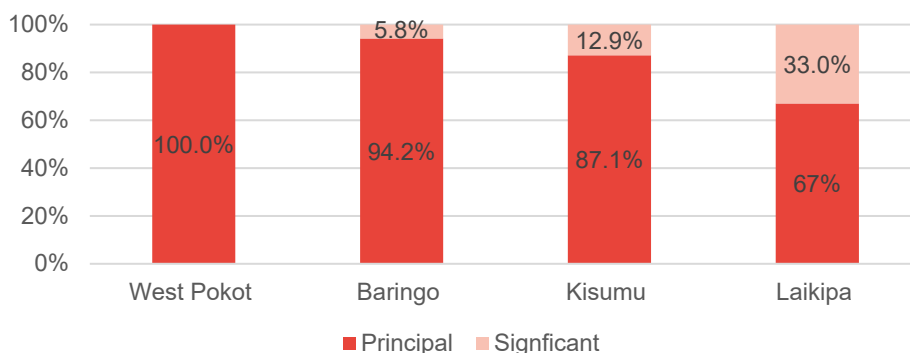
**Figure 11: Share of significant and principal components in climate change adaptation investments, 2016/17–2018/19**



Source: DI based on county budget data for various years

**Climate change mitigation investments mainly go to activities whose principal objective is to reduce GHG emissions or enhance carbon sinks.** The share of climate change mitigation investments marked principal in total mitigation investment is 100% in West Pokot and constitutes two-thirds of climate change mitigation investments in Laikipia (Figure 12). In Baringo and Kisumu the share of the principal component in total mitigation investment is 94.2% and 87.1% respectively.

**Figure 12: Share of significant and principal components in climate change mitigation investments, 2016/17–2018/19**

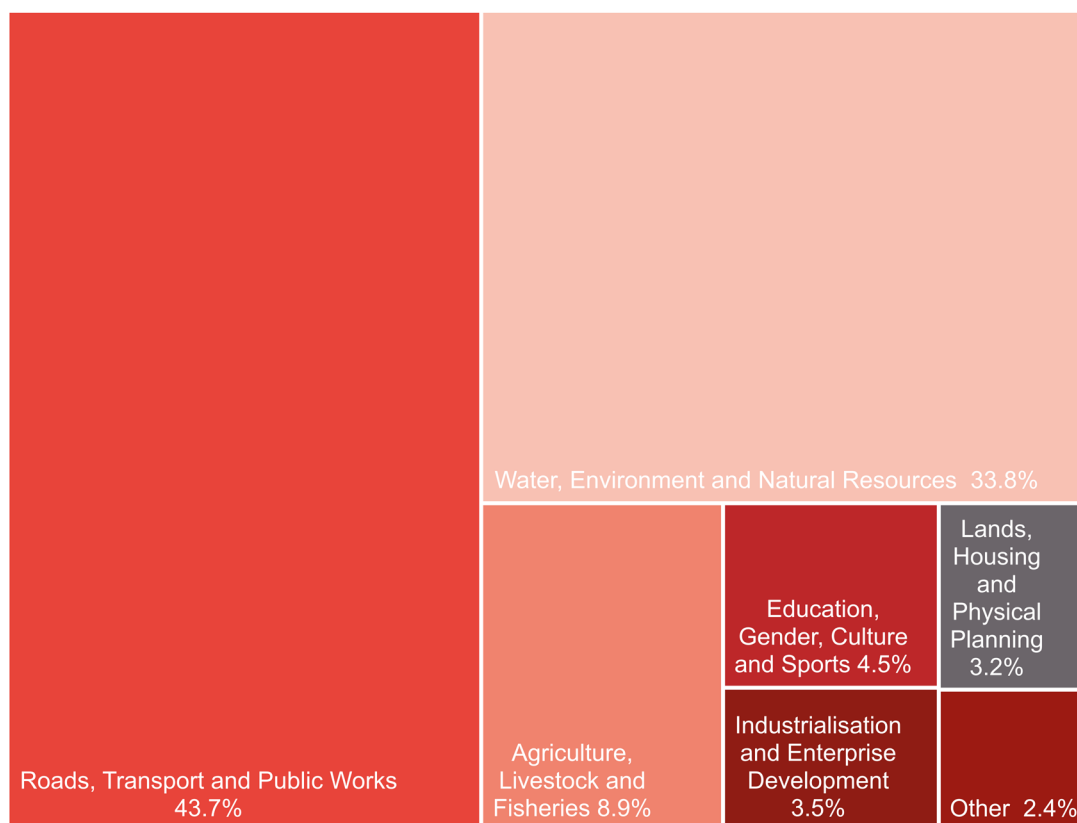


Source: DI based on county budget data for various years

### **Adaptation and mitigation activities by department**

**The department responsible for roads, transport and public works has the largest share of adaptation investments in Kisumu (Figure 13).** This is explained by the heavy investment by the county in upgrading rural and urban roads, as well as drainage infrastructure to improve resilience to hazards such as floods. The departments responsible for water, environment and natural resources, as well as agriculture livestock and fisheries have the second- and third-largest share of adaptation investments respectively. The government of Kisumu County aims to enhance access to water from 58% to 68% by 2022 as part of its strategy to enhance resilience to droughts.<sup>44</sup> Accordingly, investments in the water sector include expansion of water supply infrastructure, sinking boreholes, rehabilitation of water springs, desilting rivers, construction of dykes to prevent flooding, and developing small scale irrigation systems. In agriculture, the focus is mainly on control of pest and diseases, agricultural input support, value addition and postharvest handling interventions. These investments are meant to facilitate achievement of food security and improved household income as part of a wider strategy for achieving Sustainable Development Goal (SDG) 1 – no poverty and SDG 2 – zero hunger.

**Figure 13: Share of climate change adaptation investments received by departments in Kisumu, 2016/17–2018/19**

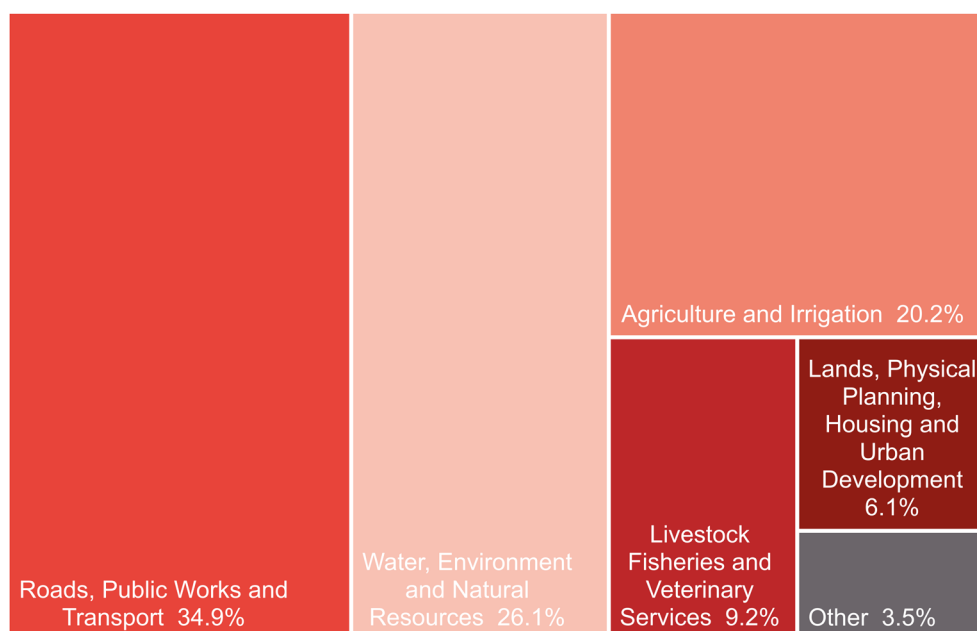


Source: DI based on county budget data for various years

Notes: Others include: Energy and Mining; Health Services; Kisumu City

**In West Pokot, the departments responsible for roads, transport and public works; water, environment and natural resources; and agriculture and irrigation account for 81.2% of adaptation investments (Figure 14).** Developing new roads and upgrading existing ones are the main projects in the Roads, Transport and Public Works department in West Pokot. This is informed in part by the high vulnerability of the county to floods and mudslides that often destroy infrastructure such as roads. In the water sector, West Pokot county invests in sinking boreholes, sand dams, water harvesting tanks, and expanding water supply infrastructure (pipes) in rural and urban areas to improve household resilience to droughts. This is informed by the low level of access to water in West Pokot which stands at 37.2% of households – substantially below the national average of 72.6% of households.<sup>45</sup> As discussed in the county profile section, West Pokot has both high food and income poverty. Accordingly, it is implementing the Kenya Climate Smart Agriculture Project which is funded by the World Bank through the national government. The project supports adaptation measures targeting smallholder agro-pastoralists to enhance food production and household incomes. A review of the 2017/18 annual progress report shows that implementation of adaptation projects is slowed by late disbursement of funds, underfunding, and lack of required equipment.<sup>46</sup>

**Figure 14: Share of climate change adaptation investments received by departments in West Pokot, 2016/17–2018/19**



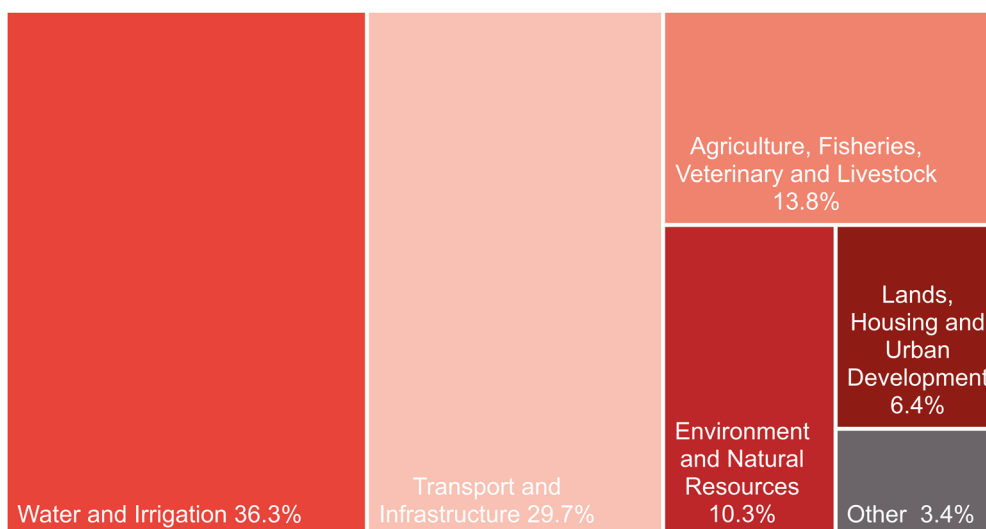
Source: DI based on county budget data for various years

Notes: Others include: Trade, Industry and Cooperative Development; Special Programmes and Directorates; and Tourism, Culture, Sports and Gender Development

**The department responsible for water and irrigation has the largest share of adaption investment in Baringo county (Figure 15).** This is informed by the low access to water which stands at 48.4% of households<sup>47</sup> – significantly below the national average of 72.6%. Baringo also supports household resilience through development of transport infrastructure, particularly rural roads, as well as enhanced food production through the Kenya Climate Smart Agriculture project. Most of the water projects in the 2017/18 fiscal year were completed as planned. This is mainly attributed to support from the national government and development partners who supported the county through direct implementation of projects.<sup>48</sup>



**Figure 15: Share of climate change adaptation investments received by departments in Baringo, 2016/17–2018/19**

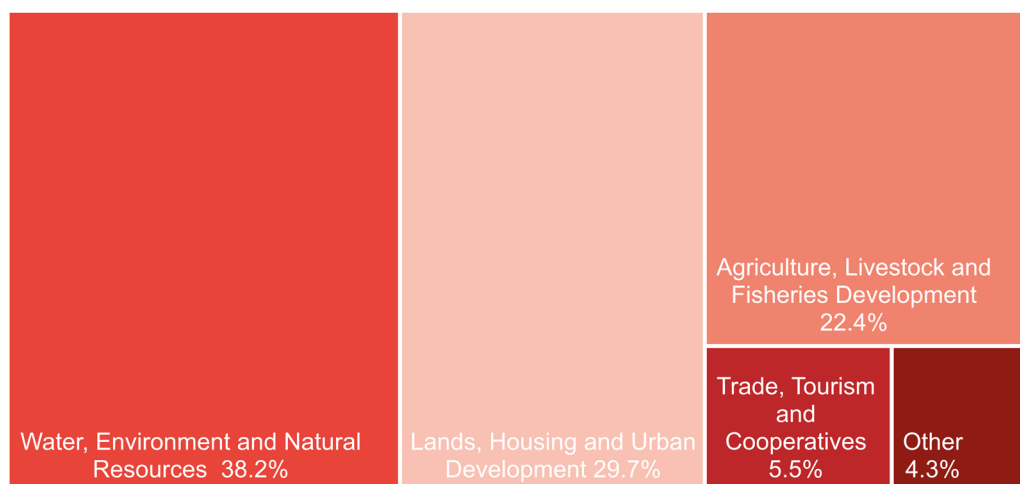


Source: DI based on county budget data for various years

Notes: Others include: Industry, Commerce and Tourism; Treasury and Economic Planning; and Gender, Sports and Culture

**In Laikipia, the Water, Environment and Natural Resources department which has a direct mandate for climate change accounts for the largest (38.2%) of adaptation investments.** This is attributed to investment in water infrastructure including rehabilitation of dams, sinking boreholes and expansion of water pipelines. Investments in the department responsible for lands, housing and urban development, which has the second largest share of adaptation budget, mainly go to upgrading rural and urban roads. Laikipia also implements the Kenya Climate Smart Agriculture to enhance food security and household income. Tracking the reach and scope of the adaptation projects in Laikipia, however, is constrained by lack of data on the number of households that have been reached. This is compounded by lack of data on performance against targets for implementation of planned projects.

**Figure 16: Share of climate change adaptation investments received by departments in Laikipia, 2016/17–2018/19**

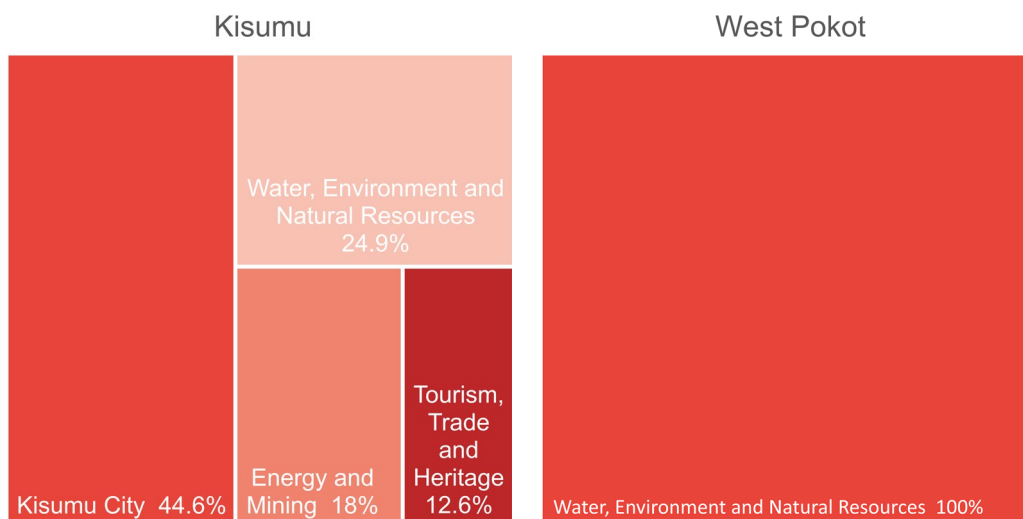


Source: DI based on county budget data for various years

Notes: Others include: Health, Finance and Economic Planning; and Public Service and Administration

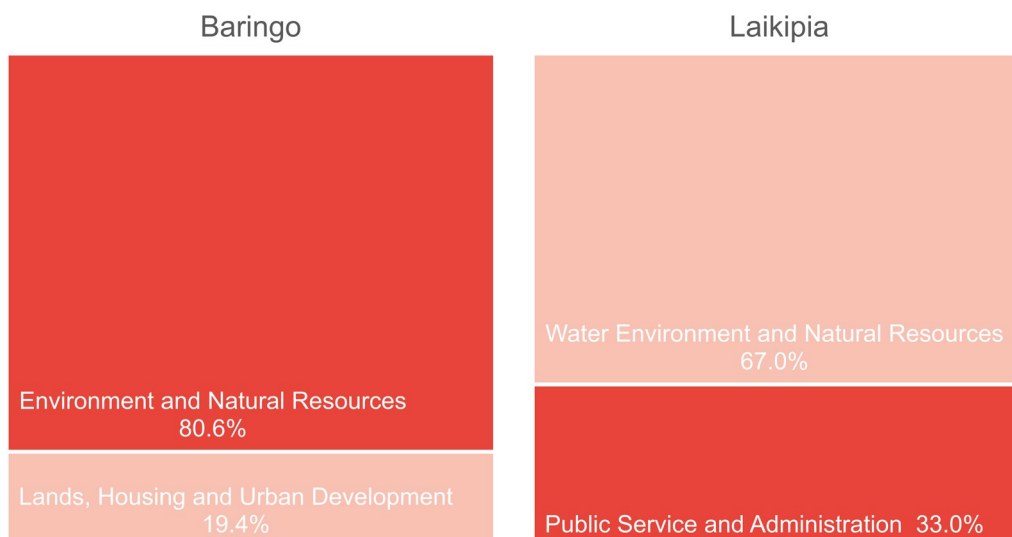
**Unlike adaptation, mitigation is mainstreamed in only a few departments: one in West Pokot, two in Baringo and Laikipia and four in Kisumu.** The largest investments are made in the department responsible for environment, climate change and natural resources in West Pokot, Baringo and Laikipia (Figure 17 and 18). In Kisumu, the largest investment is made in the department responsible for management of Kisumu City as it has an environment/ climate change mandate.

**Figure 17: Share of climate change mitigation investments received by departments in Kisumu and West Pokot, 2016/17–2018/19**



Source: DI based on county budget data for various years

**Figure 18: Share of climate change mitigation investments received by departments in Baringo and Laikipia, 2016/17–2018/19**



Source: DI based on county budget data for various years

**In all the four counties, mitigation efforts focus on forestry development and use of renewable energy.** All the counties have a project involving planting trees in existing forests or public places such as schools as a mitigation strategy. This is informed by the low forest cover – measured as proportion (percentage) of land area covered by forests – which is estimated to be 0.3% in Kisumu, 2.9% in West Pokot, 3.2% in Laikipia and 5.6% in Baringo.<sup>49</sup> The level of forest cover in these counties is below the national target of 10% of land area. The preference for forestry is informed by the fact that forests not only act as sinks by sequestering carbon and storing it for a long period, but also promote sustainable development through co-benefits such as erosion control and supporting rural livelihoods. For instance, in Baringo agroforestry initiatives such as promotion of fruit trees such as mangoes, paw paws and macadamia support diversification of household income, enhance food security and contribute to sequestration of carbon.<sup>50</sup> In Kisumu, promotion of agroforestry has enhanced the demand for tree seedlings, thereby creating livelihood opportunities for women who own over half of tree nurseries in areas such as Lower Nyando.<sup>51</sup> However, progress in forestry development is slowed by illegal logging and overexploitation of forest resources for wood fuel and construction purposes.<sup>52</sup>

**Renewable energy investments in the four counties mainly involve expanding the use of solar energy for lighting public spaces and facilities, as well as pumping water and heating services in public institutions.** Investments to support households to transition to clean energy were explicitly budgeted for in Kisumu in the 2017/18 fiscal year and were supported by a development partner. This involved distribution of solar kits to households to replace the use of fossil fuels. Nonetheless, there is no data on the number of households that have benefited from the project to track its effectiveness. In Laikipia, the government is forming partnerships with local cooperatives to support households to access renewable energy solutions. In the 2017/18 fiscal year, 15 women's groups in Laikipia were trained in energy conservation at the domestic level.<sup>53</sup> West Pokot planned to distribute 10,000 energy saving stoves to households in the 2017/18 fiscal year. However, there was no progress in implementing this project since no funding was allocated to it.<sup>54</sup> Baringo County planned to establish one energy resource centre to create awareness on conservation of energy in the 2017/18 fiscal year. However, the centre was not established due to inadequate funding. Baringo County also planned to purchase and distribute 1,500 solar lanterns but managed to purchase only 1,050 units due to underfunding.<sup>55</sup>

# Conclusions

**Investments made by counties in climate change adaptation and mitigation are essential for achievement of Kenya's aspiration to transition to a green economy that guarantees improved human wellbeing and social equity.** Adaptation actions at the county level are expected to build the resilience of people in poverty and vulnerable groups such as women, people with disability and children to the impacts of climate change. Furthermore, improved investments in mitigation in counties is expected to contribute to the achievement of Kenya's GHG emission reduction targets by 2030.

**Vulnerability to climate change in Kisumu, West Pokot, Baringo and Laikipia is driven by high poverty, reliance on climate-sensitive livelihoods and rapid population growth.** Climate variability constrains agricultural production, leading to poverty and food insecurity. On the other hand, poverty limits access to the goods, services and technologies that households need to build their resilience to climate change. Rapid population growth exerts pressure on the limited natural resources that support the livelihoods of the households in the four counties, thereby exacerbating vulnerability to climate change.

**County climate change investments are aligned to Kenya's priority on adaptation which constitute at least two-thirds of climate change investments in Kisumu, West Pokot, Baringo and Laikipia.** Investments in adaptation in the four counties are geared towards building resilience through interventions that enhance food security and household income, as well as access to water and infrastructure such as roads. These interventions are linked to achievement of SDG1 and SDG 2 and are pro poor to the extent that they are expected to address the challenges faced by people in poverty such as food insecurity and limited access to water.

**Investment in forestry and alternative energy sources are the main mitigation strategies in the four counties.** While forestry holds great potential for achieving the twin objectives of enhancing carbon sequestration and promoting sustainable development, progress is slowed by illegal logging and overexploitation of forest resources.

**Overall, progress in implementing priority adaptation and mitigation actions is slowed by inadequate funding and technical capacity.** A review of county annual progress reports shows that implementation targets for key adaptation and mitigation actions are not being achieved due to limited financial and technical capacity. Inadequate funding has negative implications for the reach and scope of priority climate change projects.

**Lack of disaggregated and up-to-date data limits analysis of the impacts of climate change, as well as monitoring and tracking of the effectiveness of climate finance.**

In the absence of disaggregated needs data, the populations at risk are likely to remain invisible and they may not benefit from climate finance. Furthermore, inadequate tracking and monitoring of the effectiveness of the resources invested in climate change adaptation and mitigation limit the ability of national and county governments to identify and strengthen the interventions that demonstrate value for money.

# Recommendations

**Strengthen OSR mobilisation in counties to provide additional financial resources to implement priority climate change actions.** Increased mobilisation of OSR could bridge the funding gaps that prevent effective implementation of climate change projects. Key interventions by the national government in this area should include fast tracking finalisation and operationalisation of the draft National Policy to Support Enhancement of County Governments' Own Source Revenue, as well as the County Governments (Revenue Raising Regulations Process) Bill 2017. For counties, widening the tax base, strengthening accountability through automation of revenue collection and timely enactment of finance bills could help in enhancing revenue collection.

**Establish county climate change funds to finance priority climate change actions at county level.** The national government in collaboration with development partners should extend technical support to counties to develop legal and institutional frameworks that are need for effective functioning of the funds. This should be supported by adequate political will at the county executive and assembly level.

**Fast track finalisation of the draft Public Finance Management (Climate Change Fund) Regulations, 2018 to operationalise the National Climate Change Fund.** Additionally, the national government should collaborate with counties to create awareness on the access modalities and application requirements to enhance access to resources from the GCF.

**Enhance mainstreaming of climate change mitigation into various sectors at county level to ensure sustainable development.** For instance, in Kisumu County which has a high level of urbanisation, mainstreaming mitigation in sectors such as public transportation is required to reduce emissions. Furthermore, alternative energy interventions that are aimed at enhancing access at household level should be adequately funded. Improved use of clean energy at household level will reduce GHG emissions and alleviate the health risks associated with using fossil fuels.

**Improve enforcement of forestry laws and regulations.** This will facilitate rapid progress in forestry development by promoting forest conservation, including the reduction or prevention of illegal logging and overexploitation of forest resources.

**Establish a national system for regular collection and analysis of the impacts of climate change and effectiveness of climate finance.** Interventions in this area should include strengthening the capacity of county governments to collect and analyse data on climate change impacts and the outcomes of climate change investments. Furthermore, the roles and responsibilities of national and county governments in tracking and monitoring the impacts of climate finance should be defined clearly to facilitate efficient coordination and transparency in the reporting and accounting for climate finance.

# Notes

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# Acronyms

<b>CCF</b>	Climate Change Fund
<b>CCCF</b>	County Climate Change Fund
<b>CCD</b>	Climate Change Directorate
<b>CIDP</b>	County Integrated Development Plan
<b>DAC</b>	Development Assistance Committee
<b>GCF</b>	Green Climate Fund
<b>GDP</b>	Gross domestic product
<b>GEF</b>	Global Environment Facility
<b>GHG</b>	Greenhouse gas
<b>KES</b>	Kenya shillings
<b>KIHBS</b>	Kenya Integrated Household Budget Survey
<b>KNBS</b>	Kenya National Bureau of Statistics
<b>MtCO<sub>2e</sub></b>	Metric tons of carbon dioxide equivalent
<b>NCCAP</b>	National Climate Change Action Plan
<b>NDC</b>	Nationally Determined Contributions
<b>NEMA</b>	National Environment Management Authority
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>OSR</b>	Own source revenue
<b>SDG</b>	Sustainable Development Goals
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change

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Contact  
Boniface Owino  
Analyst  
[boniface.owino@devinit.org](mailto:boniface.owino@devinit.org); +254 736198027

To find out more about our work visit:

[www.devinit.org](http://www.devinit.org)  
Twitter: @devinitorg  
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#### **UK OFFICE**

Development Initiatives  
North Quay House  
Quay Side, Temple Back  
Bristol, BS1 6FL, UK  
+44 (0) 1179 272 505

#### **KENYA OFFICE**

Development Initiatives  
Shelter Afrique Building  
4th Floor, Mamlaka Road  
Nairobi, Kenya  
PO Box 102802-00101  
+254 (0) 20 272 5346

#### **DEVELOPMENT RESEARCH AND TRAINING (DRT)**

Ggaba Road, Mutesasira  
Zone, Kansanga  
PO Box 22459  
Kampala, Uganda  
+256 (0) 312 – 263629/30  
+256 (0) 414 – 269495  
[www.drt-ug.org](http://www.drt-ug.org)

#### **US OFFICE**

Development Initiatives  
1110 Vermont Ave NW,  
Suite 500, Washington DC  
20005, US