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Uganda Cost & Benefit Analysis 3/4

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**REDUCING
RELOCATION
RISK**
IN URBAN AREAS



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Development
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Cover picture: David McEwen. Kampala, Uganda. 2016

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Executive summary

The aim of this report is to work through methods for assessing costs and benefits of decisions on resettlement and to build wider development considerations including social and environmental costs into economic systems of valuing. Its purpose is to *deliver a framework*, setting out the evaluation techniques that institutions and government (resettlement implementers) can use in practice in the pre- and post-planning phases of a project.

The research identified two main findings. At a conceptual level, we found that ‘risks’ and ‘costs’ that respondents were describing were being mediated by (at least) one other factor. We identified that ‘value’ was a factor in this process and especially so when considering ‘risk as opportunity’. Thus, the first finding of this phase of the research is that ‘costs’ and ‘risks’ are related to ‘value’. This insight is extremely useful because ‘value’ is broader than financial measures and thus it affords an opportunity to think of ‘value’, ‘cost’ and ‘risk’ in many different ways.

The second set of findings are empirical and are

analysed in terms of policy options that were identified by policy makers in Kampala around the issue of ‘how to do urban flood risk management (protection of ecosystem services) in a changing climate?’. The policy options are an outcome of, and relate to, interpretations of contextual factors such as urban land dynamics, economic dynamics, future pressures on land and the histories of development policies in Kampala.

Together these provide a framework to analyse who is making decisions and how they articulate their ‘values-costs-risks’. Four sub-sets of valuing are identified in the framework: an infrastructural response sub-set; two individual/household sub-sets; and a legal sub-set relating to the deregistration of titles in wetland areas in Kampala. In each a different configuration of value-cost-risk is shown to affect decision-making about how to anticipate and respond to flooding. The results suggest that approaches to reducing relocation and resettlement risk from floods in Kampala need to operate with multiple expressions of value and devise ways of mediating between these different expressions.

Introduction

This report examines the social and economic implications of climate risk induced resettlement. It follows a Diagnostic report (WP1) and a Decision-making and implementation report (WP2). The aim of this report (WP3) is to work through methods for assessing costs and benefits of decisions on resettlement and to build wider development considerations including social and environmental costs into economic systems of valuing. Its purpose is to *deliver a framework*, setting out the evaluation techniques that institutions and government (resettlement implementers) can use in practice in the pre- and post-planning phases of a project.

The report interprets the findings of the research in terms of the relationships between risk, cost and value and uses this interpretation to develop a framework for evaluation of techniques for reducing the risks of relocation.

We begin with a section that recaps the findings of the previous two reports in order to identify key contextual issues and develop existing results. Within this section, we also summarise the existing economic analyses of risk reduction in Kampala. As a whole, this section serves as a starting point for the analysis of this stage of the research. We explain the method of analysis in the section that follows before moving on to the findings. There are three sets of findings: a conceptual finding, the importance of contextual dynamics, and an elaboration of four different policy options which correspond to the pragmatic range open to policy makers and households. In the concluding section, we draw together these findings to outline a framework for policy makers and households to use in the elaboration of pre- and post-planning phases of reducing relocation risk.

Starting points

There are two starting points that are important for this report. The first draws through key points that emerged in the previous two reports. The second is the specific framing of this report.

Drawing through key points from previous reports

The work package 1 “Diagnostic” and work package 2 “Decision-making and implementation” reports for Uganda brought out a number of key issues that are relevant to this work package 3 (costs and benefits).

The Diagnostic report addressed a number of issues around demographics, poverty, climate change, land markets and tenure systems and the policy-frameworks for resettlement in Uganda:

- **Demography and urban growth:** Uganda is one of Africa’s most rapidly urbanizing countries, with a population base of 35 million, a high population growth rate of 3.2 percent and a high rate of urban growth estimated at 5.1 percent per annum (Uganda Bureau of Statistics, 2014). While Kampala is the dominant city with a population of 1.8 million, there has been a clear growth of secondary towns; 50 percent of the urban population now lives in the 13 designated municipalities. It is projected that by the year 2035 Uganda’s population will have grown to 68.4 million, of which 30 percent will be in urban areas (Uganda Bureau of Statistics, 2014).
- **Urban poverty:** In Uganda, civil war, corruption and population growth have all contributed to the poverty experienced by the estimated 85% of Kampala’s residents living in slum areas (UN-Habitat, 2013). Rapid urbanisation has exacerbated both the high poverty rate, and a land shortage leading to intense and often informal development of wetlands, which are more prone to flooding. Further, unlawful evictions often target the most vulnerable groups (Kasozi, 2015).

- **Climate change and flood risk:** Uganda has witnessed a number of disasters that have culminated in loss of life and property and displacements. The natural hazards in urban areas are floods, drought, landslides, and heavy storms. Some of the hazards linked to climate change manifest in the form of increased rainfall intensity, frequency and variability in the patterns of hazards such as floods, landslides, water logging and droughts. Further environmental degradation in Kampala is largely characterized by reclaiming of wetlands, clearing vegetation and dumping rubbish in water channels, all of which interfere with water flow and make neighbouring communities vulnerable to both flash flooding and water logging. Flooding in Bwaise and Natete renders people vulnerable to waterborne diseases like dysentery, cholera and malaria.

- **Land:** Four systems of tenure are recognized: leasehold, freehold, mailo and customary. Shifting historical priorities and conflicting interests have resulted in a complex planning and governance framework for land tenure in Uganda. Development pressures from rapid urbanisation and increasing land values, as well as climate change related disasters such as flooding and landslides, have exacerbated the planning challenges resulting from a complex and insecure tenure system.

Resettlement context:

- In urban areas in Uganda, while there are many people living in places that are regularly exposed to flooding and landslide, there are few cases of resettlement or relocation as a policy response to these urban risks.
- While there are no government interventions that aim to move people out of the flooding areas, there is a large amount of “autonomous relocation,” happening —people (individuals, families) decide

to move from flooding areas, and do so without assistance from the government. The ultimate reasons for the decision to relocate may vary (threat of loss of life, things getting “unbearable,” ability to move somewhere else, etc.), and therefore issues of “tolerable levels of risk” and “land markets” and the relations between these two are key themes that we chose to examine more closely with this project.

- Resettlement and forced evictions are frequently happening as a result of urban development or urban infrastructure projects. Some of these urban infrastructure projects, such as drainage channel widening projects in Kampala (KIIDP I and II) are designed to reduce urban flooding and improve road infrastructure.
- A well-informed range of bodies exists to address resettlement issues through policy. Under the current approach to resettlement in Uganda, the lead department or ministry of a particular project is usually in charge of the resettlement processes and procedures. These projects are required to prepare a Resettlement Policy Framework (RPF) in line with national and local legal frameworks that regulate land relations in Uganda. Depending on their tenure, people undergoing resettlement are expected to be compensated for their loss (of land, property or access) either in kind or cash. However, these do not appear to be applied consistently, fairly or evenly by local and/or state authorities. Renters and other forms of tenancy are left out of compensation and are often not included in communications about impending evictions. While the need for effective resettlement policies is recognised, in practice, it is constrained by larger land market dynamics and the impacts of uncontrolled urbanisation.

Based on our findings from the work package 1 “Diagnostic” report, the Uganda research team chose to focus efforts for work package 2 on understanding the context of relocation and resettlement from the perspective of two case studies of informal settlements in Kampala (Bwaise and Natete). These cases were chosen because they are areas affected by flooding on a regular basis and because they both have a large-scale drainage infrastructure project planned or implemented. The two settlements have different economic contexts; one is a grain and agricultural processing area (Natete), whereas the other has a stronger service economy (Bwaise). Interviews with households, business and other stakeholders looked at the drivers, the tipping points and limits of tolerable risks that push or enable people to move out of flooding areas. As well, the interviews interrogated the process of eviction and

compensation. Interviews with city officials and NGOs looked at city-level strategies to mitigate flooding and to regulate urban development to protect wetlands.

The work package 2 report “Decision-making and implementation” developed some conclusions, which have become highly relevant as we moved into the cost and benefits work in work package 3.

- Risk as “cost” and risk as “opportunity”: The research revealed that risk can be defined and experienced in different ways. The first is that risk from flooding can be defined as a “cost” to the city, neighbourhoods, families and individuals, the environment, the conduct of business and/or livelihoods. This is the normative approach to risk in that it is seen as the “potential for losses”. However, the research reveals that we can also define risk as an “opportunity”. In this sense, risk-as-opportunity corresponds to a classic economic formula of “the higher the risk, the greater the opportunity for profit”. In this understanding, “risk” is an indicator of the potential for achieving greater gains than would otherwise be achievable and is to be embraced and actively engaged with. People are living, and continue to stay, in the areas that are regularly flooding, despite the negative economic and health impacts from the flooding, because there are opportunities in these areas. Thus the notion of “tipping points” (as when people might decide to move from an area because of the flooding problem) is where the balance of “risk as cost” and “risk as opportunity” is disrupted.
- Collective risk and individual risk: The research also revealed that the different notions of risk which drive individuals to make decisions (about where to live, where to open a business, where to build etc.) result in individual decisions; that is, the individual entrepreneur, landholder, informal enterprise or individual household act independently. “Risk-as-cost” and “risk-as-opportunity” relate to individual entities because the different conceptions have to be attributable to a bounded, identifiable entity. However, if we move toward a more collective understanding of risk, that is we shift the emphasis towards understanding risk in relation to collective assets, then individual actions can be calculated in terms of their collective costs and benefits. As well, collective costs and benefits will frame and contextualize individual decisions. In this context, for example, the interests of industrial developers (or those who develop in wetland areas) can be weighed against collective costs that those actions cause, like reducing water quality or increasing flooding.
- Convergence of factors that promote/reduce risk: The research revealed that while individuals are making choices/decisions based on the balance of

risk as cost and risk as opportunity, there is still a low capacity to take action on addressing the problems posed by collective risks. The Kampala Capital City Authority (KCCA) has a very low capacity to improve wetland management and maintenance despite an awareness of the problems and clear understanding of the importance of wetland management for the sustainability of Kampala's infrastructure and quality of life. The pressures of other collective endeavours such as economic development seem to prevail, despite the understanding of environmental issues. Grey-oriented infrastructure is being favoured over ecosystems management because of current international funding mechanisms.

Initial framing of this report

Resettlement or relocation is undertaken both as a pre-emptive and as a corrective action in the context of disasters or disaster risk. The pre-emptive approach is often led by key development agencies (housing or slum boards, city planning authorities) or environment agencies, while the corrective approach falls under the purview of disaster response, reconstruction and rehabilitation agencies (disaster management authorities), both of who still see development and disaster risk reduction in isolation. This view means their priorities are generally limited to either the provision of housing, or using risk as the main lens for decision-making and thus 'moving people out of harm's way'. Countless examples have shown that such an approach to resettlement and relocation interventions often creates other vulnerabilities that are social, economic, environmental and/or political, leaving people and communities worse off than they were to begin with.

Disaster could in fact be understood as an indicator of development that has not taken risk into consideration. It is a condition where vulnerabilities, exposure and lack of capacities to cope with an external hazard leads to losses. Therefore, any intervention must be towards development that is sustainable and, more importantly, transformative such that the existing vulnerabilities and exposures are reduced, thereby improving people's overall quality of life.

A basic tenet here is that many resettlement decisions and processes are guided by a narrow view of risk that essentially relates to avoiding exposure to hazards and thus the avoidance of disaster risk. Such views are determined by the ways DRR is seen and by who enacts its postulates and seeks for results. On the other hand, when resettlement schemes are analysed from an outcome perspective, the analysis is undertaken on the basis of a far wider ranging series of "risk" conditions, including livelihood

conditions, health, social cohesion, employment opportunity, etc. This latter perspective clearly highlights the shortcomings of many resettlement decisions, including the lack of consideration for the above criteria. The contrast between considerations of disaster risk and everyday risk, and the lack of a clear view in resettlement policy and action that resettlement should search to achieve wider development goals (including contributions to poverty reduction, land use planning, environmental control etc.) may in many ways relate to the sectoralization of attitudes to disaster risk and the lack of integration with wider development concerns and actors. Outcomes then become the result of approaches and attitudes, mind-sets, as to what and how to enact disaster risk reduction and according to what guidelines and criteria.

This research endeavours to develop a framework that would help in understanding the interaction between broader development (including relocation and resettlement) and risks, especially those related to climate change. The framework helps to first of all understand what drives exposure to risks and why this continues despite disaster occurrence. Secondly the framework attempts to explain the possibilities for risk-embedded development that would provide an alternative to relocation and resettlement as a pre-emptive or corrective measure, through transformative development. We utilize the costs, value and risks to the people, systems and cities or regions at large, in various temporal and spatial dimensions to illustrate different policy options for risk reduction. This decision-making process looks at the current risks and future risks depending on which decision is taken for risk reduction at a particular scale and particular category of actors. In the cases where a resettlement has taken place, the sub-sets can help to understand the outcomes to the social, economic, cultural and environmental vulnerability of the affected communities.

Drawing from our earlier research in this project under work package 2, we further frame the explanation of the policy options by conditioning factors. These conditioning factors for decisions at the multiple scales expand the notion of value, costs and risks but also actors and current intervention approaches to risk reduction.

Together these two starting points (policy options and conditioning factors) frame the current research report by drawing through key issues. In the next section, we outline current approaches to examining the costs and benefits of flood risk reduction in Kampala, and identify some important gaps in the way these analyses are conducted. This serves as an important backdrop to the outcomes of our research.

Preliminary synthesis of the economic assessment of climate change impacts related to relocation and resettlement

Given the frequency of floods and risk of significant losses, damage to both individuals and the city as a whole, it is not surprising that highly sophisticated economic analyses of climate change impacts have been conducted. Such analyses offer useful insights into the scale of the issues under consideration but are relatively less useful at capturing factors that are difficult to convert into quantitative terms or for which data is hard to come by.

Kampala has grappled with spatial planning, infrastructure, housing and, more recently, fragmented and “runaway-type” development, which has distinct, sprawl patterns with different exposure to climate risks. Spatial plans largely remain at a strategic level and less at the neighbourhood scale, where there is a disjuncture between the envisioned urban layout and the actual development (Lwasa 2013). The coupling of these multiple challenges has failed planning, resulting in a continued organic development of “informal” settlements that are also highly threatened by climate-related risks. From housing, diverse infrastructure, innovative livelihoods, patterns of growth and sprawl, economy, labour market, industrious innovativeness and social differentiation, these “informal” settlements are the largest sections of the city. Bwaise and Natete settlements are good examples of this pattern of development with almost no risk-reducing infrastructure. People in these types of settlements are connected to the locations for employment, livelihood and residence. Through the period of Kampala’s growth, the settlements have sustained livelihoods, provided opportunities and challenges that create compelling reasons to think about different ways of reducing risk to flooding and other climate risks with relocation and resettlement as options rather than the norm.

Economic valuation of costs related to climate impacts can be complex given the nature of costs and benefits, which may be weighted differently and have differing values across a range of stakeholders. The assessment of economic impacts of climate change in Kampala is an aggregate of direct and indirect costs which, for this report, may or not be broken down and itemized. The costs are borne by different actors at multiple scales of the city operations. The syntheses of economic assessments here are meant to give an insight into the valuation process and estimated costs but not be definitive. This is because the synthesis is largely drawing on existing assessments which utilized different methodologies and approaches to the valuation of costs of flooding and climate related adaptation. Drawing from the existing literature, we

look at economic value assessment at two levels: the household level and the city-wide scale. Whereas some elements at household level are included in assessment at the city-wide scale, there are other elements such as drainage infrastructure that are unique to neighbourhood and city-wide level. This justifies the consideration of multi-level assessment or estimation of costs and benefits of climate related flooding as defined by the framework earlier.

There are largely two costs and benefits categories considered in the valuation literature when considering expenditure methodology, which relies on estimating expenditures undertaken to avoid exposure and/or falling sick. The first of these is Defensive expenditure which involves costs associated with impacts of flooding such as health, infrastructure repairs, maintenance and costs related to sustaining businesses during floods. The defensive expenditure methodology essentially relies on assessing the costs of undertaking activities aimed at offsetting changes associated with flooding and other extreme events. One example of the application of defensive expenditure is reducing effects of water pollution. In order to avoid risk of sickness from exposure to polluted water, it is often observed that individuals buy bottled water and/or boil water or in some other ways treat the water before its consumption. Another example is inundation of houses and businesses in which avoidance or minimizing risk to business stock or costs of repair, individuals construct dykes and embankments to keep their buildings largely free of floodwater in anticipation of rainy periods.

The second type of expenditure is the Indirect Cost of illness. This relies on estimating expenditure associated with infrastructure or defensive mechanisms at a scale larger than the unit of analysis and anticipating future impacts. Indirect costs also involve expenditure that is associated with activities relating to the direct costs but not the actual impact; for example monetized time lost for a worker unable to access his or her workplace due to inundation by floodwaters. Benefits are considered as the savings that would otherwise be spent when there are defensive measures that deter the impacts of flooding.

- From literature and economic assessment in Kampala, households incur an average \$13.6 per month (US) on costs associated with flooding, and with an average income of \$62.8 the expenditure is just under a quarter of the income. At the neighbourhood scale, estimated household expenditure on flood-related costs is \$17.4 million annually¹.
- At the city-wide scale, assessments have been undertaken in Kampala taking into consideration several scenarios of climate change. The total costs

of climate change include three elements: (1) the cost of mitigation, (2) the costs of adaptation and (3) the cost of residual damage. The first refers to the cost associated with the reduction of the anthropogenic forcing of the climate system as a contribution, diminishing future climate change. The second refers to the cost of reducing the impacts of climate change. The third refers to the cost of impacts that can be neither mitigated nor adapted to and that remain after such

actions have been taken. As UNEP (2013) argues, the costs of the impacts of climate change can be defined as the sum of the costs of adaptation and the cost of residual damage. In this sense, two different economic assessments of the impacts of climate change are typically done. While estimates of damages refer to the total costs of the impacts of climate change, estimates of adaptation refer to only one part of them, as they do not consider the cost of residual damage.

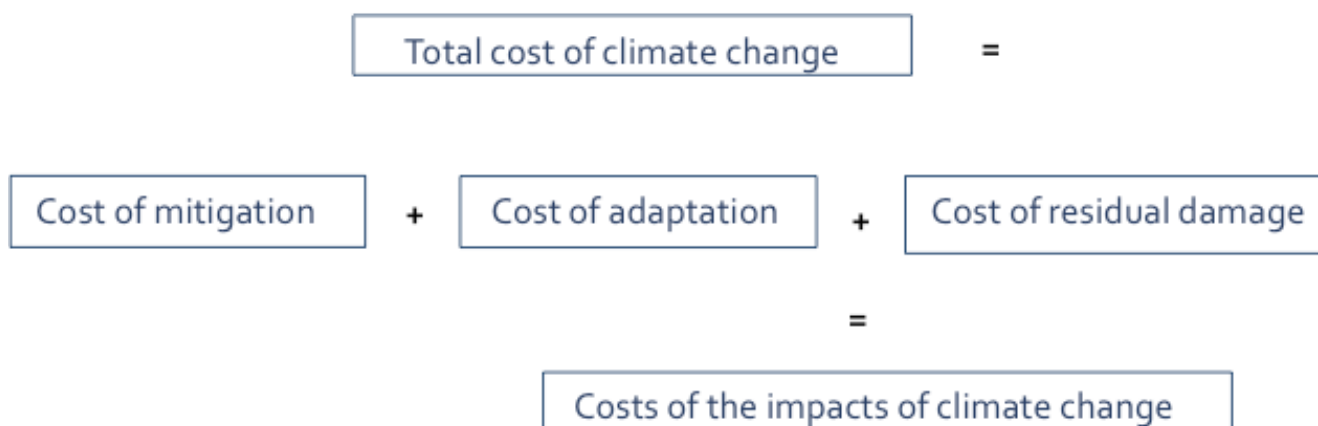


Figure 1: Baastel et al, Climate Change Department, Ministry of Water and Environment, Uganda, Climate & Development Knowledge Network (CDKN) 2014, Final report

Costs at the city-wide scale are assessed for loss of life, affected people, infrastructure destruction, infrastructure damage and disaster relief that are calculated as a ratio of the GDP. Studies indicate that in Kampala flood-related deaths of 2.7 per year from 1993-2014 were estimated to cost between 0.22 to \$5.7 million USD in life years lost while effects on people was estimated to be between \$0.17 to \$0.57 million per year. Destruction and damage to buildings due to floods was estimated to cost between \$0.16 to \$0.88 million per year. Three scenarios are considered. First is the current situation of flood events with 2013 as the base year. The second is flooding based on RCP 4.5 and the third is flooding based on RCP 8.5. Uncertainties notwithstanding, the costs are estimated to increase fourfold with an increase of 4.5o C and ten times more with an increase in 8.5o C. The estimate runs through 2025 to 2050. The increase in temperature is likely to be associated with redistributed rainfall events including extreme events that would deliver flooding episodes and affect the assets.

With respect to infrastructure, costs to climate-proof infrastructure in Kampala are estimated as significant: between \$3,259 million and \$3,699 million over the 2015-2050 period and between \$560 million and \$600 million over the period 2015-2030. Costs increase with time, to a large extent due to population growth and

associated infrastructure demands if the development trajectory continues with business as usual. Costs start out quite small but build up over the period to 2050. In 2020 they range from \$11-13 million per year but by 2050 they are as high as \$380-485 million. In terms of percentage of GDP they go up from 0.03/0.04 per cent in 2015 to around 0.1 per cent in 2050. Total costs vary considerably by socio-economic and climate scenario. With the more climate friendly scenario the total cost to 2050 is around \$3.2 billion while with the less friendly one with little mitigation action goes up to \$3.7 billion (27 per cent increase).

The costs estimated in these studies reflect the expenditure incurred on assets like infrastructure. What is missing in the valuation are costs associated with relocation, breaking of social ties and community cohesion, business relocation and proximity factors either to workplace or markets. These issues were raised by categories of people in the study sites as important and thus cannot be left out or underestimated. These can be assessed as opportunities but also as costs of relocation. Distances to markets, customers, work place and cost of housing are opportunities that the settlement offer which are not monetized. The next section grounds these costs using the framework of risk-value-cost at multiple scales and diverse actors using empirical data from Kampala.

1 Benoit et al, 2008, Assessment of Economic costs and benefits of flooding in Kampala, A Report of FOCUS Cities Kampala

Method employed for this research

The analysis of work package 3 draws on the data set that was generated in work package 2 including 70 interviews with households and small enterprises in Bwaise and Natete and nine stakeholder interviews (see Appendix 1 'Site selection and sampling'). This dataset was enhanced with six additional interviews with stakeholders, undertaken in June 2016, to complement and enrich insights that were developing in the analysis, particularly in relation to the economic analysis of decision-making.

The analysis began from a team workshop held in London in March 2016 where initial frameworks were formulated. From these formulations, the analysis of the Uganda data started from the view that what is important to understand is how stated problems are ultimately related to desired outcomes. Thus, the entry point was to identify three different types of decisions – pre-emptive, post-impact and climate-induced – as direct responses to a problem of “how to do urban flood risk reduction”. These responses are influenced by historical, governance and economic factors that interact with possible decision-outcomes that could be positive or negative in nature. The interaction occurs in time and space to determine the scale of the outcomes. The desired outcome is understood (from interviews with KCCA stakeholders) to be “sustainable urban development that takes into account flood risk”.

In order to understand different responses, we identified in WP2 that it would be necessary to analyse the data from the perspectives of individual (household and small enterprise), ‘small collectives’ (neighbourhoods) and ‘big collectives’ (city). Our view that these different perspectives were necessary was not so much to cover different scales, but to understand different ways in which people come together (or not) in response to flooding phenomena that do not typically bear any relation to ‘scales’. In the event, data analysis of the ‘small collective’

proved difficult because the data generated in WP2 had not addressed this issue sufficiently. This poses a limitation on the outcomes of this research in that we are not able to shed insights on ‘small collective’ activities. An advantage is that it makes it simpler to identify any gaps and/or overlaps between household and small enterprise-level and city-level perspectives. Addressing the perspectives at the ‘small collective’ level is an issue that should be picked up in future research.

In order to frame the coding and analysis of the transcripts, we began with a set of objectives: to understand how different actors from individual, collective and city-wide actors value risk and benefits of relocation. The objectives were derived from two aims. First, to develop an approach that combines different methodological approaches to assessing risk and the benefits as well as costs of living and working in the flood prone areas. Second, to generate evidence that transcends Cost Benefit Analysis (CBA) from the different perspectives that tells us more about how different actors value or make trade-offs vis-à-vis living in flood prone areas. This second outcome was to help in understanding how CBA (as a conventional method) has been used to estimate benefits and costs by state-driven relocation as compared to voluntary individual and/or small collective relocation. From materials so far gathered, there seems to be inadequate information on the usefulness of CBA to account for all the benefits and costs that the people most affected consider in relocation. In particular, conventional CBA appeared to be weak at incorporating and accounting for ‘risk-as-opportunity’.

To recall: the reasons for selecting Bwaise and Natete were that both experience flooding. In addition, Bwaise has experienced an infrastructural intervention in canalizing the main channel as well as the compensated eviction of landowners and

resettlement of people living near the channel. In Natete infrastructural improvements are currently underway (2015-16) and compensated eviction for those affected landowners will begin.

In order to operationalize these aims and objectives, the methods of analysis needed to afford the possibility to think about costs and benefits more broadly than the dominant ways in order to contextualise resettlement and relocation as one option among many of dealing with flood risk. Practically, we focused the analysis at two levels (household and small enterprise, and city) on answering the overarching questions: why do people make decisions to relocate or stay? What are the costs and benefits for households and business of locating where they do? What shapes their decision-making?

In order to analyse the data in terms of these questions, we coded the transcripts in terms of responses to the following issues.

1) What are the actual stated costs associated with living or transacting in flood-prone areas, or with relocating from flood-prone areas; measured in damage, loss or destruction of assets including social, physical, economic, environmental and political? There are four categories to be documented:

- a) Actual costs in the 'old' place
- b) Actual costs in moving to the new place
- c) Actual costs in the new place
- d) Actual costs that have remained the same in both places

2) What are the actual stated opportunities associated with living or transacting in flood-prone areas, or with relocating from flood-prone areas; measured in improvement or enhancement of existing assets or access to new assets? Again, these opportunities can be categorised as:

- a) Actual opportunities in the 'old' place
- b) Actual opportunities in moving to the new place
- c) Actual opportunities in the new place
- d) Actual opportunities that have remained the same in both places

3) What are the coping strategies for managing costs

as outlined above? What are the 'tipping points' which render these strategies insufficient? In practical terms, this means coding for:

- a) Instances of managing with risk as cost/opportunity
- b) Instances of triggers or tipping points

4) How are costs and opportunities translated between categories (e.g. from cost to benefit, livelihood to enterprise, un-manageable to manageable etc.)? What are the processes of calculation, comparison and strategizing undertaken in decisions? How do decision outcomes affect lives and livelihoods? This means coding for:

- a) How risks change from one category to another (i.e. what is changing)
- b) What calculations that people are making

5) What happens in between flood events that affects decision-making processes? What are the relationships and social processes that influence decision-making and how are they expressed? What are the other processes and events taking place between floods that help or hinder attempts to reduce risk? This means coding for:

- a) Socio-political relationships and networks that are being established in periods between floods
- b) Other events which are occurring in non-flood periods that affect household respondents' decision-making

6) What is the existing 'risk-scape', interpreted here as the spatial imagination shaping the social and emotional, collective and individual understandings of risk? How does potentiality inform decision-making?

7) What are the external interventions in the risk-scape? What are the perceptions of their intended effect?

8) How do understandings of ownership and property rights contribute to the distribution of costs and benefits during flooding events? Further, who bears the costs and gains the opportunities? This is in distinction to Q5 which focuses on non-flood periods.

We used thematically coded data relating to the 8 questions to generate answers to the overarching questions outlined above. The aggregated data in relation to the four questions below, were interpreted in the analysis to follow.

Question	Using results from
What are the losses that households incur from flooding?	1
What are the opportunities that they gain from living in the area?	2
How do they try to shape the opportunities and losses? (I.e. understanding how and what they value.)	3, 4 ,5, 6
How do they perceive external interventions?	7

Findings

The findings of this stage of the research are divided into two forms. We begin with the conceptual findings before elaborating a set of empirical findings.

Conceptual findings

This section sets out in conceptual form a means of interpreting the results that emerged from the analysis of transcripts. Our initial insight into this interpretation came through realizing that the ‘risks’ and ‘costs’ that respondents were describing were being mediated by (at least) one other factor. We identified that ‘value’ was a factor in this process and especially so when considering ‘risk as opportunity’ (see Figure 2 below).

Thus the first finding of this phase of the research is that ‘costs’ and ‘risks’ are related to ‘value’. This insight is extremely useful because ‘value’ is broader than financial measures and thus affords an opportunity to think of ‘value’, ‘cost’ and ‘risk’ in many different ways.

Objects in the everyday environments of Bwaise and Natete can have different values for different people. For example, a dwelling is simultaneously a place of

security, an asset, a place to work from, and/or a drain on resources to maintain. These change as people work within the multiple identities that we all have – as parents, sons or daughters, workers, ‘slum dwellers’, tenants and owners, women and men – and over the life course. Many of the respondents spoke about how the meaning of living in Bwaise and Natete had changed from them initially coming as young people to stay with relatives or join husbands or wives, to having children and now being retired.

They also pointed to how the everyday environment can have different values. That is, the location of their activities, the infrastructure that is un/available to use, the activities of others that might pass through the environment and/or the flows of people, goods, resources or money that constitute the environment. The different configurations of these aspects and the ability to re/configure them has different values. (Gender appeared a key issue in affecting the power to configure factors in the environment, but the research did not generate sufficient evidence to explore this fully. This is thus an area that needs further exploration.)

These values also changed over time. They changed because the register of meaning in which they are valued changed (the starkest difference being between how respondents valued their land and how KCCA valued their land for compensation purposes) and changed because people moved them from register to register (land bought became an inheritance for their children). Things and people have value because they are understood within particular registers of meaning – commonly accepted constellations of how to interpret objects, processes and people and the ways that these interpretations can be put to use or converted into other things. For example, residents in Bwaise can think of the value of their land as a means of identity and belonging in Kampala while KCCA thinks of Bwaise as a wetland

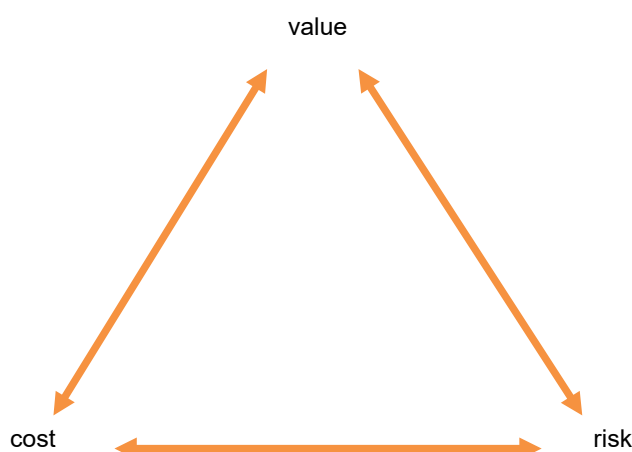


Figure 2: Value, risk and costs

necessary for flood management. In each register, the same parcel of land has different values. It is often a matter of power relations as to which register is dominant and which sets of actions ensue. From the perspective of households, we could think of this as involuntary changes in value.

However, value can change because of 'voluntary' agreements. For example, a parcel of land can change value because people convert it from a commodity to an inheritance – something that they purchased becomes a gift. In such a case, while the 'market value' has not gone away, the value of the land is understood within a different set of norms, expectations, obligations and relationships and affects what can and cannot be done with the land.

How can we 'see' value? In broader theoretical terms, the argument is that this becomes possible when the rights to the value are transferred either within or across a register. This is because value is socially constructed. There must be at least one other person that engages in some way with the person holding the rights to the value in order to agree on the value and exchange the rights – even if they agree that the value is zero in financial terms.

However, things we value often have costs associated with their ownership, use, access, maintenance or consumption. These costs can be to secure ownership, use, access or consumption. The costs can be related to maintaining the value of the object, process or thing. A good example is a dwelling that needs to be maintained or infrastructure that loses its value if it is not adequately maintained. Importantly, the costs associated with the values run in different directions. They can be monetary, social, cultural, interpersonal and/or political. And, to return to risk, there is always the potential for loss or reduction in value due to disasters.

This framework of interpretation is useful for explaining value-cost-risk at an individual 'household' level but it is not clear how it would work at a collective level. In terms of the issues identified in WP2 between individual risk and collective risk, it remains for future research to investigate the implications at a collective scale.

Contextualising value-cost-risk within Kampala

Values, costs and risks are the outcome of a series of urban processes in Kampala and these processes contribute to how values, costs and risks are understood. This section of the findings therefore identifies a series of contextual factors that stakeholder interviewees identified as important for understanding the possibilities for action in Kampala.

In so doing, this section broadens the framework of value, cost, risk that is demonstrated in the policy options in the section to follow.

Stakeholders identified that a key question in Kampala is: 'how to do urban flood risk management (protection of ecosystem services) in a changing climate?' To give content to this question, three alternatives were considered:

- 1) Preventative (future) settlement on wetlands and/or areas likely to experience flooding in relation to weather variations. This is the preferred option as noted by KCCA. However, the desire to do this does not appear to be matched by the resources to currently implement it.
- 2) Preventative resettlement where people and industries currently exposed to flood risk are resettled before incurring more losses to property and life and their locations exacerbate city-wide flooding. This option does not appear to be a realistic option in Kampala because of the costs associated with compensating landowners.
- 3) Managing flood risk through infrastructural interventions (historically the most favoured) and approaching development in terms of 'sustainable urban drainage systems' so that run-off is reduced and slowed before reaching the areas that are at risk of flooding.

There was also broad agreement that the desired outcomes of such interventions revolve around notions of 'sustainable urban development'. Between this question, options and desired outcome, stakeholders identified a range of factors that mediate and constitute the question and outcome. These factors were:

- Urban land dynamics
- Dynamics within the economy
- Future pressures on land
- Histories of development policies

Each of these factors is elaborated in the context of the policy options below.

Urban land dynamics

Land dynamics in Kampala can be described by the land market, its operations and status. The urban land markets have been described as vibrant, characterized by exchanges that drive urban development. Housing for residential purposes is by

far the largest land use, which places high demand on land in Kampala. With over 40% of the land in Kampala under residential or mixed use, more land is being opened up for development (Vermeiren et al. 2012). The dynamics of the urban land market is influenced strongly by the form of tenure. A synthesis of the types of land tenure, their rights and dynamics is described before analysing the interviews in respect to how land is valued to influence decisions for relocation and resettlement.

Emerging from a complex socio-political history, there are currently four underlying tenure types in Kampala: Freehold, Leasehold, Mailo and Customary. Amongst these, Mailo is a form of Freehold. However, by law owners of Mailo land cannot sell or use the land against the interests of customary tenants, or bona fide or lawful occupants. Any party purchasing Mailo land will inherit any tenants or occupants. These tenants or occupiers are legally 'tenants by occupancy' and pay a nominal annual amount in rent to the landowner. Customary tenure relates to colonial legislation that granted Ugandans a 'right' to occupy land that had not been allocated to anybody else through freehold or leasehold in accordance with Customary law. The Public Lands Act (1969) extended this right by requiring customary tenants to consent to their removal. This Act also allowed customary tenants to apply to the Uganda Land Commission (or the Buganda Land Board if kabaka's land²) for a lease over the land they occupied. These rights of customary tenants are protected by the constitution of Uganda and the Land Act of 1998 with amendments in 2008. It is these protected rights rooted in the law that have fuelled a dynamic land market in Uganda and Kampala, in particular since all forms of rights are exchangeable. The section that follows here describes the different types of tenure and associated rights.

Freehold tenure is defined in the Land Act 1998 as a tenure that is derived from the Constitution and written law. Freehold tenure provides for full ownership (i.e. owners may use it for any lawful purpose and sell, rent etc. as they see fit. Importantly, no development conditions are imposed on holders of freehold title. The rights are perpetual in that they are not time dependent and thus can be transferred through the market or through inheritance.

The other type of tenure and rights are defined by the leasehold. The rights to land are granted for a specific period, usually in exchange for rent. Any owner that is in terms of freehold, customary tenure or Mailo – may grant a lease to another party. As Lwasa (2010, 58) notes, the records of these transactions are not always well kept and there are overlaps and

contradictions in the rights associated with different tenures because 'people move between them in terms of their relations to land, or because a particular piece of land may lie between two systems which may be subject to conflicting rights and duties' associated with different registers. Despite the overlaps and conflicts, the dynamics associated with land tenure in Kampala are heightening largely due to the value attraction as well the pressures of urbanization.

Since most of the land is held 'informally' in Kampala (in the sense that owners don't have official documentation defining their rights), it is useful to consider some of the insights into how this affects land dynamics. Lwasa (2010, 104-7) identifies three issues that help explain the dynamism of Kampala's land market. From these issues we can start to identify how values of land are constructed and how they relate to costs and risks. Urban land dynamics are important because they affect how and where the poor choose to live. First, the ideological restrictions on Baganda selling Mailo land to non-Baganda means that land is sold very selectively, and (presumably) non-Baganda are either required to purchase leaseholds or obtain tenancies. Second, the informal conveyancing methods have come to resemble the formal methods with documents attesting to the exchange being witnessed (and sanctioned) by Local Council officials. Third, the roles of brokers are important in ensuring that the transactions proceed smoothly. These three factors converge to construct value configurations on land held under different rights, and in respect to the flood-risk areas, the land market is now seen as the option through which voluntary relocation can be enabled.

This degree of heterogeneity of land rights within settlements influences the possibilities of relocation and resettlement. That is, in addition to state recognised land rights (statutory, customary) there are also 'claims', 'shares', 'loans', 'use-rights' of various kinds that make up the gamut of land rights. In theory, the heterogeneity could work for and against people having to relocate/resettle. The greater the diversity, the more possibilities there are for people to find alternatives. However, in practice, the greater the diversity, the more potential unpredictability there is for people if they tend to transact within one register (either because they are forced to or because that is what they are most familiar and comfortable with). Within the city, heterogeneity of land rights can be explained with similar arguments.

Perhaps here, the additional factor is what role the state plays in supporting/recognising some forms of land rights over others and what that means for

² Kabaka's land refers to that owned by the Buganda Land Board

people's abilities to transact themselves (either at the time of the relocation/resettlement or subsequent to it). For example, if relocated people are promised 'freehold' land rights, but the state has a history of never (or being very slow at) processing the documentation, the relocated people are unlikely to put much faith in new options. Elaborating this point: people on the ground will have a clear sense (rightly or wrongly) about what kinds of tenure are more secure than others and what a relocation (with a particular promise of tenure) might actually result in. These issues affect the value of existing rights as well as the proposed new rights. The potentially new land use, zoning and infrastructure regimes in relocation sites will also affect these processes.

There is often a great difference between who is legally seen to hold land rights and who actually holds them and relocations/resettlements clearly relate to how this could change. This is not just important for the immediate issue of whose name is on the documentation but also relates to the social and economic duties that relate to 'ownership'. For example, ownership of land can also relate to and affect kinship relations and who in wider kin groups might have a claim on the location; provisioning for the household if there is space for growing vegetables and keeping small animals; and political claims of belonging that extend to the household members (rather than just the 'owners'). Different state agencies will be perceived with different powers within the state apparatus by people on the ground. Clearly, departments or ministries that are perceived as close to the President or Prime Minister will be perceived (correctly or incorrectly) as having more power to intervene. People will normally assume that higher levels of government are more powerful than local government. The more land that government institutions are considered to have, the greater the potential for contestation over precise locations that are proposed as relocation sites. Land clearly figures as location, identity, belonging, and a basis for claim-making on the society and the city.

Thinking through the cost-risk-value relationship, the higher the cost of land, the more likely people are to be willing (or indeed be forced) to occupy or claim high-risk land. Or, to see high-risk land as an opportunity to start an enterprise or to access work. The urban land dynamics are clearly reflected in the experiences of people that were evicted in Bwaise to make way for the drainage channel. It appears that expectations of the amount of compensation were always higher than what was eventually paid and that with this compensation, owners that were evicted were unable to find comparably priced land, in a similar location, in the city. They have therefore remained in Bwaise and are still subject to flooding, albeit at a lower level.

Dynamics in the economy

The urban economy of Kampala is complex given that the city is the industrial hub of the country. Complex because it is characterized by a range of economic activities at multiple scales. From large and medium scale industries to micro-scale 'artisanal' activities that make use of material inputs from the importation sector as well as leveraging local materials and, more recently, solid wastes. This manufacturing oriented economy is related to the various forms of trading, most of which is again 'informal' and continuously faces the wrath of municipal regulations leading to confiscation, eviction and strained relations.

It is the lower end of economic activities on both the manufacturing economy and trading that offers employment to the majority of low-skilled urban labour that live and work in the informal settlements. Most of the businesses are also located within these settlements due to costs associated with large-scale production or trading. Marketable individual skills have been described as low among many people but it is also important to note that the formal labour market is expanding at a much slower rate compared to the many people entering the labour market. In this mix of urban economy of Kampala is the often vibrant transportation sector which absorbs a big proportion of the low-skilled labour as well as the highly trained youths as a transition into the labour market. Housing is also looked at as a source of economic livelihood to many, creating a range of housing types by quality and size and value for different social groups.

Once again this narrative illustrates the presence and grounding of the 'informal' but also underscores its role in the making of the city. These economic undertakings are taking root and expanding fast as opportunities open up and people in informal settlements recognize they can easily make entry into the economy and labour market through these initiatives. Within this context it is difficult for KCCA to prevent development on private land, even if regulated by environmental policy, as this is often seen as stifling economic development.

Future pressures on land

Land in urban areas is a key factor whose importance increases as urbanization accelerates. Urbanization creates opportunities for transformation of cities like Kampala but also presents challenges for ensuring the sustainability of urban development. In Kampala, urbanization is largely driven by the population dynamics of rural-to urban migration increasing the demand for housing and associated infrastructure as well as services. But 'natural' urban growth is considered to contribute a significant proportion of

urbanization (Potts 2012). In Kampala the processes of renewal and redevelopment have changed the CBD greatly as commercial, office structures and industrial uses invade and replace residential uses, especially high density residential areas occupied by the low-income population of the urban poor. This trend is increasing and is likely to continue in the future, which will increase the pressure of development on land.

An underlying force for the changing landscape of Kampala is population growth, but the market forces are perhaps the most significant forces of change in Kampala city. Economic policies derived from the forces of globalization for the economic transformation of Uganda, which have mainly been pursued from and around the city through industrialization, are also responsible for the urban expansion of Kampala. Kampala has continued to absorb over 40% of the country's total urban population. This is because the city acts as the major industrial and commercial centre. But the unique feature of Kampala's expansion due to economic transformations is the informal sector proliferation, which is thus important to take note of.

Associated with these economic transformations are the market forces of *consumption* derived from the population. *Globalisation* and *market forces* are influencing urbanization of the city in two distinctive ways. First, the consumption by the urban population of products produced both within the city and in the country. Second, through exchange of land for development in the city, which has intensified recently leading to commodification of land and informalisation of the land acquisition processes. The consequence of informalisation and commodification has been the conversion of environmentally sensitive land to urban uses with serious social and health consequences, mainly at the fringes of the city. Due to these factors, the expansion in Kampala is steadily advancing at a fast pace leading to an engulfing of adjacent rural landscapes and urban centres (Vermeiren et al. 2012). In the different suburbs of Kampala, there is continuous redevelopment and renewal for housing provision. However, this is not KCCA driven, neither is it public policy driven, but rather driven by privately induced developments. Kampala's densities are also changing, partly explaining the redevelopment and renewal processes.

The role of urban market forces in Kampala is undoubtedly the force that will increase the pressure of development in Kampala. The exchange of land for development as a market force in the city has intensified recently leading to unprecedented exchange of land for development. Land subdivision and eventual development of land in the city has intensified at the city's peripheries. The demand for

land is increasing fast in areas which are not highly suitable for development and due to this demand, speculation and agents involved in land exchange have also increased. The city has hundreds of registered and non-registered land agents, some of whom have discredited the land market through multiple sales that lead to disputes. Likewise, due to the nature of land exchange experienced currently and the problems that are involved, land has become not only a commodity but also socially sensitive. Developers have tended to construct residential houses up to the last inch of their plot boundary, sometimes with the road reserves not spared. This pattern of urban development in the city is creating a disorderly imprint of settlements and handing the responsibility of urban development to the masses with less input from the city authorities. These processes are influenced by private real estate companies, infrastructure development and expansion, residential housing and industrial development.

Given this nature of expansion, risk is likely to increase because there is going to be more pressure on land. The factors that are creating the current risk include continuous encroachment, grey infrastructure development, and increasing rainwater run-off. The urban economy is vibrant in those areas that are prone to risk, and those that are not prone to risk, but the activities in these areas are not likely to be deconstructed. The residents would be expensive to relocate and compensate.

Histories of urban development policies

The histories of urban development in Kampala are rooted in the planning efforts of the pre-colonial systems, colonial and post-colonial legal and policy initiatives. The Kampala Capital City Authority's Act, 2011, created the new administrative and organizational system of Kampala but this only came after several decades of development characterized by a mix of formal regulation and informal organization. KCCA, which in part focuses on urban-wide provision of services including street lighting; solid waste management; environment management; infrastructure development; as well as spatial planning, does not seem to be in control of the residential and industrial development of the city. Even when KCCA has streamlined the process of development control, a sizeable proportion of houses and industries are developed without approval (Goodfellow and Titeca 2012b). The KCCA law provides for planning, design and implementation of urban infrastructure in Kampala. Whereas this is a good side of the law, it lacks direct reference to urban disaster risk analysis in provision of infrastructure. There is no mention of flood risk despite recent

experiences. This implies that perhaps there has not been any lesson learned from the flood events in recent years.

Kampala's development has always been guided by the Public Health Act (1964), which, inter alia, details building standards and requirements as well as locating sanitation and hygiene facilities. In implementing this law and policies, there was no deliberate effort to assess and take into consideration the flood risks in the city. Flooding of high magnitude is a recent phenomenon, which has led KCCA and the Ministry for Disaster Preparedness to start thinking about risk reduction. Flooding directly affects sanitation and contributes to health related disasters in the city. KCCA's Department of Public Health and Environment still follows the law while inspecting building construction and in respect to sanitation this means the positioning of a latrine at least 10 meters away from the main housing unit. It is very clear that latrine systems, though widely used in Kampala, have no place in the current scenario of urban infill and development. Other than provision for sanitary drainage facilities, there is no direct reference to flood control in this law. The law is also obsolete given the dynamics of the city but is still in operation and guides development. The laws coupled with land tenure and rights are propelled by the urban land market to influence the historic and current development trajectory of Kampala. A synthesis of these laws follows.

Several laws and regulations have been reviewed to identify policy-driven flood risk, gaps and opportunities to reduce flood risk in the city. The review of the laws indicates that urban flooding is not specifically addressed in the laws. The laws have systemic failures such as locating development in flood-prone areas, not controlling the clearance of vegetation on hill slopes and the focus on grey-infrastructure that heighten flood risk. Based on the policy analysis, it is clear that flood risk is to a large extent a socially constructed phenomenon. This is because there are several actions and opportunities that could have been put in place to avoid flooding but which have not been considered. For example, the planning regulation should have been one of the tools utilized to reduce flood risk, but planning suffers from a lack of enforcement on one hand and inadequate revision to incorporate risk considerations on the other.

At national level, the Physical Planning Act (2010) prescribes the procedure for declaring a locality as a planning area and the process for formulating spatial planning schemes as a framework for development, urban service and infrastructure provision. The key issue related to flooding in the law is the

location of land uses and management of valued environmental components such as hill catchments and wetlands. The law does not provide for proper disaster prevention planning in the city. Looking at the implementation, there is little evidence about the protection of catchment areas in the city. The few cases of implementation are the selective NEMA enforced observance of wetland regulations in the city that have restricted development for biodiversity and wetland ecology with no direct reference to flood control.

The National Environmental Act, CAP 153, provides a comprehensive framework for guiding development and managing, in a preventive way, activities that would trigger disasters such as floods. A number of environmental management guidelines and regulations have also been formulated and put into effect but most of them focus on rural environments or other ecosystems such as mountains and only allude to urban environmental issues passively. The major ones among these include: a. The National Environment (Wetlands, River Banks and Lake Shores Management) Regulations, 2000. The regulation defines the buffer zones of minor and major rivers within which any activity that is commercial or agricultural is prohibited. For major rivers, the buffer distance is 100 m from the assumed centre of the river while for minor rivers the buffer distance is 50 m. There is no provision for urban streams and rivers such as in Kampala. Even if these regulations were to be implemented, it would be difficult to enforce the buffer distances, as the land market seems to dictate development in the city. Related to this regulation is the surveying and demarcation of wetlands, which has not been implemented for years due to the political and social contestations associated with the wetland boundaries and how they relate to privately owned land boundaries. This is expanded later in the empirically supported policy options. The National Environment (Minimum Standards for Management of Soil Quality) Regulations, 2001, would be an appropriate regulation for sustaining infiltration levels in urban areas, especially in upper catchments, to increase the lag period and/or cumulatively reduce runoff. But these are not enforced in the city. These regulations and policies associated with the invariably inappropriate to the urban situations in particular to flood risk management in fast developing cities such as Kampala. Thus the development trajectory of Kampala is likely to continue in a similar way that characterizes its histories even with the seemingly renewed KCCA authority and power.

Decision-making and articulation of values-costs-risks

This section brings together the conceptual findings

of the research focused on values, costs, and risks, with the analysis of contextual factors in four different decision-making sub-sets. These sub-sets are understood as both a response to the contextual factors and a way of contributing and forming the contextual factors. This is leading to the conclusion that any framework seeking to understand the costs and benefits of risk reduction needs to be firmly situated in the urban processes of which it is a part.

The four sub-sets relate to the policy options that are currently in operation in Kampala in relation to the question 'how to do urban flood risk reduction?'. The first sub-set relates to infrastructural improvements; the second to people continuing to live in flood risk areas of the city; the third to people that have moved due to flood risk – either through their own means or due to eviction to make way for flood reducing infrastructure; and the fourth sub-set relates to an attempt to remove existing developments within flood risk areas and deter future development in such areas.

Sub-set 1. Infrastructural responses: KIIDP project (Bwaise) and KIIDP II (Natete)

Kampala Institutional Infrastructure Development Project (KIIDP) II is a follow up on previous international development aid (IDA) funded projects in Kampala by KCCA to improve infrastructure and service delivery. KIIDP is a comprehensive project conceived around the expressed need by KCCA of upgrading drainage systems to manage storm water and floods in the city. KIIDP is implemented with a project management unit and all directorates that have a role are coordinated by the implementation unit. Although KIIDP is developing a plan for the entire city, the upgrading of Natete-Lubigi channel is one of the projects underway for implementation. A decision to upgrade the primary drainage to the west of the city has been made by KCCA and this will resettle some people who live in the direct impact zone. The channel is to be widened, concrete or stone lined for a length of approximately 7.3 km. Households living in the flood plain of Natete have been profiled and the Gender directorate involved and has mobilized the people to understand the project. With funding from IDA a grant has been secured to finance the project. But as a requirement, co-funding is required from government for the compensation of any affected people.

Using this sub-set, risk by KCCA is understood as the impact of flood to the households and infrastructure such as roads. The main objective for the project is the upgrade of drainage systems as part of the City's infrastructure development strategy. However, although flood-risk is repeatedly mentioned through all interviews and documentation, the need to

promote development in Kampala seems to be the main driver. This development model is influenced by grey infrastructure based response to flood risk reduction. Risk reduction is not conceptualized as embedded in development not just for infrastructure but how the residential buildings, industries and other infrastructure are developed. Bringing the notion of risk-embedded development creates the challenge of several commercial and residential buildings that have been built in the flood plains and close to the drainage channel. A decision to relocate these people has been arrived at but it would come after compensation of their land and houses.

In regard to relocation or resettlement of people, KCCA does not have a resettlement strategy for this project. It was confirmed through interviews with officials that KCCA is highly unlikely to resettle people. What is envisaged to be done is the valuation of their land and houses and then compensate them and the people would identify where to move. But KCCA is working with the Office of the Prime Minister (OPM) to develop a strategy in the future. Some members of KCCA regularly meet with OPM as part of the national disaster risk and response team due to floods in Kampala. Floods are increasing by the day and central government wants to come in to offer help. KCCA has also created a task team responsible for drainage maintenance. Contractors have been selected. A system to monitor flood hotspots in the city (Industrial area, Mukwano, Bwaise, Clock Tower) to enable timely response when extreme storm events are experienced. From the KCCA point of view, all these measures are linked to the impacts of floods to the roads, secondary drains and increasing the cost of road maintenance and the main driver for the decision for such a project is infrastructure development and reduction of costs on infrastructure.

However, due to recent integrated flood management strategy development, KCCA has identified initial ideas that could embed risk reduction in infrastructure development. Under the KIIDP project, the contractor will design the channel with retentions and integration of Sustainable Urban Drainage System (SUDS) principles. KCCA is interested in using SUDS principles to collect storm water at planned road interchanges of the upcoming flyovers and use it for different purposes including watering flowers and green areas within the city. KIIDP is implemented with other directorates. For example, the Gender department mobilizes people living in the settlements. The Planning Directorate has started on planning these areas so that the designed drains align with a spatial plan. The Communication department is very active in enabling the public to be aware of the project and activities of KCCA, while the Engineering Directorate is guiding the designs. There will be a

number of activities including levelling to determine the flow gradient of the channel, areas for retention of water and how these will be integrated with SUDs.

In sum, the infrastructural investments have a particular financial cost and their value relates mainly to enabling economic and spatial development that would potentially serve the broader economy in Kampala and beyond.

Sub-set 2. Living with flood risk: Individuals that decide to stay in the neighbourhood (Bwaise, Natete)

An estimated 60% of urban dwellers in Kampala live in informal settlements, which are characterized by a mix of housing types and social groups (UN-HABITAT 2007). Taken broadly and inclusive of housing, the informal settlements are broadly described as urban activities that are undertaken by people largely falling outside city ordinances and laws (Goodfellow and Titeca 2012a). The informal settlements include buildings of any type, and economic activities from trading and services to processing and production. The latter can be manufactured goods, processed goods, urban agriculture, permaculture and processing of produce. Whereas the informal settlements are often thought to house the poor, there is evidence in Kampala that middle and high-income people also live in informal settlements (Lwasa et al. 2009). Thus informality is not synonymous with the 'urban poor'.

Likewise, the urban economy in Kampala is also largely informal. The issue about informal economy is the scale of production, operation and service provision, which is usually small to medium-scale. The informal economy relies on spatially connected neighbourhoods, networks through which goods and services flow. The informal displays very economically vibrant activities that link to higher levels of the urban economy in terms of supplies, flows and demand for products. It is this complex yet intricate nature of the urban economy in Kampala that enables survival and persistence of the urban poor through their ingenuity in starting micro and medium-scale businesses.

In Bwaise and Natete, the settlements of focus during this research, the residents' access and proximity to outputs and flows of goods, commodities and labour needed for everyday life are critically important for the sustenance of their households and livelihoods. For example, the location enables different respondents to engage in transportation business, mobile money service, get food easily, trade on the roadside, grow and sell poultry and rent out houses. Their location and access to the informal economy of urban life is also important for the broader growth of Kampala's

economy due to the linkages with higher level supplies and value chains.

Risk as opportunity: What do people value about living in Natete and Bwaise?

For people who are poor and living in Bwaise and Natete, access and proximity to both outputs and flows of goods, commodities and labour and the formal and informal organization of support networks needed for everyday life are critically important for the sustenance of their households and livelihoods. Their location and access to the informal economy of urban life is also important for the broader growth of Kampala's economy.

Proximity to outputs and flows because circulation is important to poor households in two ways. First, with both time and money being in short supply, the almost immediate access to essentials of daily life – food, water, cleaning, transport, energy supplies – are important. This is also because, the per-unit cost of items sold in small quantities is typically higher, resulting in the common observation that it is 'expensive to be poor'. Costs (time and money) saved accessing goods mitigate their higher per-unit price. In Bwaise, it is particularly evident that being in this location makes it 'easy to get food'. In contexts, with little infrastructure and limited means of extending perishable food's life, daily access to food (in small quantities) and energy is an important concern. A charcoal seller comments that 'low income families in the area cannot afford to buy large amounts [...] and therefore sells it in small batches'. Thus, proximity and access enable poor households to get by.

While proximity and access are not always related to density, in Bwaise, the density of the population is important for the viability of the local enterprises. High population densities provide materials for an enterprise engaged in waste crushing (25), shoe production (19), and selling second-hand clothes (20). The density provides a 'large customer base' (19, 28) and network where 'here in Bwaise, many people know me' (24) and 'I have many customers' (27).

Second, proximity and access relate to the circulation of goods and money. For example, credit, financial middlemen and cash are three main features of the urban economy (Santos 1975). Thus in places such as Bwaise and Natete, many poor people experience a scarcity of cash (by definition), are saddled with different forms of indebtedness and are caught in situations where some people can take advantage of perpetual disequilibria between what is supplied and what is demanded. In these circumstances, the interrelations between these characteristics mean that the circulation of, and indeed, acceleration of

circulation is vital for people to gain money and use money for consumption and partially pay off some of the indebtedness in order to secure more.

At the city level, proximity, access and acceleration of circulation mean that the small transactions of the poor are collected up by wholesalers and merchants whose transactions are collected up by bigger economic actors such as banks and property developers to pool resources to make significant investments in the city possible. The informal economy of urban life is therefore fundamental to the broader success of Kampala's economy as it circulates and accumulates money.

In this context, the value of being located in a central location like Bwaise or Natete is central to the sustenance of the households and small businesses and ultimately helps the circulation in the urban economy. For example, the location enables different respondents to engage in a taxi business or mobile money service, get food easily, sell tomatoes on the roadside, grow and sell poultry and rent out houses. The density of the population means there is a strong customer base in the local area. For many enterprises that participated in this research, Bwaise appears to be a second-best option. That is, a place to start again when initiatives in other parts of the city have failed. The low barriers to entry of the activities taking place and low operating costs of rent and transport (19, 20, 21, 22, 23, 24, 25) provide an important platform to start anew. From a household level, it also explains why resettlement to a location that is not as advantageous in terms of economic outputs and flows is so calamitous. However, the value of the location needs to be related to the costs of remaining in the location and risks-as-costs of losing goods and possessions.

Thinking through the cost-risk-value relationship, the higher the cost of land, the more likely people are to be willing (or indeed be forced to) occupy high-risk land. Or, see high-risk land as an opportunity to start an enterprise or access work.

There is another sense of value that is prominent: the value of identity and belonging. For some respondents 'being' in Bwaise is fundamental and even though 'I get overwhelmed [...] I do not leave' (8) and 'I don't have any thought of moving from this area...because we were born from here and therefore have a strong sense of belonging' (11).

The difficulties experienced by many people in the settlements encourage formation of various support networks, both formalised and informal. More formal networks include savings and loan groups in both settlements and in Bwaise an 'urban poor fund', set

up by leaders of the local chapters of the National Slum Dwellers Federation. Less formal networks are based on the accessibility of local business (most residents live within walking distance of their work) and the ability to engage with familiar vendors in local markets. People often stay in a settlement at least partly to avoid disruption to these networks. One NSDF leader stated that if a community is forcibly evicted (even if given some compensation) community-dependent relationships will be disrupted as people will scatter.

Risk as cost: What are the costs to households associated with the [flooding] risks?

The decision-making around which flood risk management strategy is most effective has to do with the level of risk that is considered acceptable in society. In this context, by 'risk' we mean the 'potential for losses,' which can be understood as loss of human life, health impacts, loss of belongings or assets, loss of income, loss of productivity, quality of life is negatively affected, etc.

While some respondents relate the risks of living in Bwaise to potential loss due to crime, for the majority in Bwaise and Natete the key risk is flooding.

In Bwaise and Natete, the situation is that flooding in the wetland areas is commonplace during the rainy seasons. In the worst-affected places of the settlements, this flooding can happen on a daily or weekly basis. Furthermore, a few times during the rainy season, this flooding may become worse, with water levels becoming quite high or water staying around for more than a few hours. Every few years, a very bad flood can happen, in which the neighbourhoods stay flooded over a period of days.

There are stark inequalities across Kampala in exposure to risks from flooding. Those most impacted by flooding are those who live in the wetland areas. To generalize, it is the most poor who are most exposed to flooding, in part because of the location that they live in, but also due to inequalities within the most exposed settlements like Bwaise and Natete where the most poor and tenants are unable to upgrade their structures to better withstand the impacts of flooding.

In Bwaise and Natete, households are coping with flooding by a variety of methods, including raising up furniture and household property, raising the height of the house, cleaning up after the floods, staying home when it floods to protect children and property. Each of these activities has associated costs associated, for example respondents in Bwaise said that they spend two days preparing for the floods. Other respondents explained that they have to pay people to help them

to clean up after a flood. After floods purchasing new mattresses and household goods is common. In Natete seven of the respondents indicated that they couldn't work during the floods because of lack of accessibility, uncertainty or fear for children's safety.

Businesses have significant amounts of stock or products damaged or destroyed (21, 22, 24, 25, 27) and often lose business during the rainy season

because people cannot access the kiosk where they vend their products (19, 20, 23, 28, 29).

In the bottom-most area of Natete, where the flooding is particularly bad, respondents report health problems including candida, malaria, foot rot, miscarriages, snake-bites, and skin diseases especially in children. Further, floods occasionally result in death, particularly of children who often sleep on the floor and thus are

Financial costs	Opportunity costs
'Before the primary drainage was constructed...[]... floods invaded and destroyed some of the household property and my important documents' (4)	Raised household property (1) (9)
Previous dwelling on plot collapsed due to flood waters (6)	Raising property up (2) (10) (12)
The costs of guarding against the floods 'is really expensive because it never ends' (6, 35)	Dealing with water entering the house (2) (12) and cleaning up once flood waters recede (5) (8) (9) (10) (11)
Incur expenses of replacing/repairing household property (8)	Time spent protecting children because the 'channel spills water that extends here which is dangerous for the children' (2)
Incur cost of not being able to work when it floods (9)	Putting furnishings on top of the raised bed and preparing for flood can take 'as long as two days' (5) (7) (11)
Purchasing culverts to put along drainage channels and act as access points to the house (11)	Putting furnishings on top of the raised bed and preparing for flood can take 'as long as two days' (5) (7) (11)
Destruction of household goods, clothes (11)	Relocated to relatives once when flooded (5)
Cost of soap to clean dirtied household property and replace damaged property (11, 33, 34, 35)	Constructed a dyke (6)
Damage to household goods and furnishings (12, 30)	Preparations for flooding can take a week (6)
No clients during floods – 'I am poor during the flood season' (29, 34)	Difficult to cook outside in the yard when it is flooded (6)
Loses clients for snack business during floods because 'it is hard to cross through the floods to get food' (29)	Difficult to move around when the floods come (6)
Cash lost in floods (32)	Piling soil around the house in preparation of floods (10) (11)
Cost of clean-up following floods (33, 34, 35)	Clearing the drainage channels (11)
Materials/labour to shore up house (35)	

Table 1. Balancing the trade-offs between risk as cost and risk as opportunity

most vulnerable to water entering the home.

In Bwaise and Natete household heads were able to provide a long list of the costs associated with flooding, some of which had a direct financial value and some of which were more related to economic losses in terms of opportunity costs (see Table 1 below).

It is notable that while it is possible to gain insight into what factors associated with living in flood-prone settlements provide opportunity or add value to people's lives by asking indirect questions about decision-making processes, responses to direct questions about the opportunities and value of living in flooding areas (specifically, in Bwaise) were likely to be met with the response 'nothing' (i.e. there is nothing inherently valuable or beneficial about living there) and instead a clear understanding of the costs and losses incurred. Thus, the benefits in terms of relationships that enable socio-economic flows might be interpreted more as 'invisible enablers' or adaptive necessities than as calculation factors in people's decision-making.

Although people in Bwaise and Natete are adversely affected by flooding, many of them have no choice but to accept these risks and stay where they are because they are not financially able to secure other housing. One respondent in Natete explained, 'I don't have the capacity because this house rent costs 50,000 and above the hill houses are at 80,000 or 140,000'. Another confesses, '[I have not left this area because] I have not found people who buy my place. I need about 100 million because this is in the city'. Thus it is not really that households find the risks acceptable, but rather that they have few alternatives, or that the health and economic risks are bearable given the alternatives that are available to them. Additionally, the sense of identity and belonging experienced by some in the community can bring both benefits and a sense of inescapability; one NSDF leader at Bwaise said 'some have been born here [in Bwaise informal settlement] so there is no escape route'.

Sub-set 3: Individual responses to move from flooding areas (Bwaise, Natete)

This sub-set covers two different groups, those that moved autonomously and those that were evicted by the state to make way for infrastructural improvements.³ In this research, both groups of people share the experience of moving within Bwaise or Natete. That is, the research neither traced nor identified people that had moved out of Bwaise or Natete. One of the main implications of this is that the

respondents tended to be people that held ownership rather than rental claims to land. This is important because it relates to the ways in which people relate and/or calculate the relationships between values-costs-risks, which is very much influenced by the commitment expressed to the land through tenure.

Clearly, one of the most important differences is the motivation for moving. For those moving autonomously, there were a diversity of reasons that came together – not least the suffering and hardship caused by the flooding. For those moving due to eviction, it is more evident that the motivation is directly a result of the eviction order. We begin by considering people that have moved autonomously in both Bwaise and Natete, before addressing those that have been evicted. We look at 'movers' and 'evictees' in Bwaise and Natete in terms of 'risk as opportunity' and 'risk as cost', before reflecting on the balance of risk as opportunity and cost.

Risk as opportunity: What do people value about moving within Bwaise and Natete?

If we consider that living in a flood-prone area of either Bwaise or Natete reflects a specific configuration of value-risk-costs, then moving location autonomously suggests that either one of the variables has changed dramatically to affect the relationships to the other two variables; or, two or all of the variables changed to precipitate a move.

The fact that the specific households interviewed had chosen to move but remain within either Bwaise or Natete respectively suggests that the value of the area was relatively constant. In ways similar to the section above (on households living in Bwaise or Natete), the value of the areas is their location and proximity offering access to the informal economy of urban life. In Bwaise, respondents drew attention to the close proximity of the area to town with a consequence being that travelling into town was cheap. Others pointed out that living cheaply in the area had enabled them to 'bring up children', 'meet their tuition' and help children get married, build houses of their own and find jobs.

In Natete, there is a similar pattern. The location reduces transport costs of accessing the urban economy and its amenities. Respondents declared that they could walk to work or arrive earlier than before. The location gives access to schools and health services and it is affordable: 'it's what I could afford to pay for rent'. In other words, in both Bwaise and Natete, respondents have tried to retain the value of location and the access it offers.

This suggests that they have faced significant changes to costs and/or risks. The costs and/or risks of remaining had become too great to bear, even including the additional costs incurred in moving to a new location. We begin by considering changes to costs before changes to risks in each research area.

In Bwaise, the actual costs that respondents were listing ranged from financial costs (to replace damaged or destroyed household goods), to opportunity costs and labour time of reducing the impacts of floods, to social costs of relocating the family to stay with relatives. Added to these were financial costs of constructing a new dwelling and social costs of the family splitting up while new dwellings were constructed in the process of moving. One respondent was prepared to incur costs relating to changing from ownership to tenancy in order to escape the costs of dealing with the flooding. For most the sentiment of one respondent reflects the effects of the costs: 'poverty made me to construct a smaller house compared to the old one creating small space for my family' (Respondent 16).

For respondents in Natete, the costs were similar and more tragic with one respondent stating that the last floods had 'killed one child and the second one survived narrowly after being rushed to hospital'. These respondents noted that other costs included the limitations on children of not being able to go outside during flooding and the health costs incurred from pit toilets being destroyed or flushed.

In terms of risks in Bwaise, the respondents were clear that the risks associated with flooding were likely to continue, if not increase. With some indicating perceived responsibilities for leaving an inheritance to grandchildren, it was evident that minimizing the risk of loss is important. Respondents attempted to minimize losses by raising household property, raising houses and creating barriers in the place they had moved from. Respondent 15 exhausted their resources adapting their dwelling to the floods: 'I didn't have the money and therefore there was nothing to do'. For some, the need to reduce the risk meant saving for six years (Respondent 16) or taking a loan to construct a new house (Respondent 17). Ironically, while for Respondent 18 'on a hilly landscape the floods can't affect me', for others that have moved, they are still subject to flood risk due to the lack of maintenance of drainage channels or people depositing waste in the channels and thereby blocking the flow (Respondent 29).

In sum, for respondents that have moved within Bwaise and Natete, they have sought to retain the value of living in such central locations and when the costs became overwhelming in managing the risks, they relocated autonomously. Even if they still appear

to be facing flood risks, these do not appear to be on the same scale and the costs can be borne. The outcomes for the respondents that were evicted, however, appear less favourable. We now turn to consider the situation of respondents that moved because of an eviction order.

For those moving as a result of eviction, the eviction figures as a disruption to configurations of value-cost-risk that respondents were comfortable or satisfied with. It appears as if the entire value-cost-risk calculation had been 'downgraded' in a way that left respondents facing similar costs and risks with less value of land. This is because, for the most part, people that have been evicted are either on a smaller portion of land in the same location or have moved only slightly. The compensation provided as part of the eviction has not facilitated the respondents to participate in the land market. Expressing a similar view to others, Respondent 68 observed that '...yes, the thought of moving is there, but we only move if we have enough money to get a plot of land elsewhere and build. Other than that we are still here'. The only way that evictees can realise the risk as opportunity of remaining in Bwaise and Natete is by remaining in very high flood risk areas.

In Bwaise, they are incurring costs of protecting themselves from floods, costs associated with replacing destroyed goods and/or repairing damaged goods, and costs associated with losing livelihoods. The costs to livelihoods are either because they have less land in which to engage in economic activities (agriculture, rearing poultry, renting out space) and less space to rent out as dwelling units (Respondent 67). Respondent 68 noted: '... we have two plots taken up during the construction of the channel although we were never compensated. They promised to compensate us but they never did and the person who was helping us to claim for our compensation died, so we decided to rest the case. The land that was taken by the drainage channel, we were using it for agriculture...'

In Natete, the respondents participating in the interviews were facing evictions at the time of the research (December 2015). Similar to Bwaise, the evictions were disrupting calculations of value-cost-risk. Respondents had been informed to relocate in January 2015 but 'we do not see any work going on but we are ready to go when it deems necessary' (Respondent 39). Respondents were 'waiting to leave until compensated' (Respondent 44) and planning to leave if they could find either a buyer or the capital to move (Respondents 39, 41) and facing the prospect of 'losing my social links', facing higher rental costs and 'losing my job' (Respondents 52, 53, 54). Others noted that 'it's like someone promising you every time and you gain nothing' (Respondent 46) and Respondent

52 expressed a common view that ‘since we hear of [KCCA’s drainage channel plan] ... [there is] nothing permanent you can do because we live at (sic) fear that any time our houses might be demolished’.

In sum, those respondents in Bwaise that had been evicted or those in Natete facing eviction appeared considerably worse off than they had been prior to the actual eviction/announcement of eviction. We turn now to consider ‘risk as cost’ for both groups in Bwaise and Natete.

Risk as cost: What are the costs to households associated with the [flooding] risks?

In terms of the risk as cost, there is little doubt that the floods in Bwaise and Natete generate the potential for losses and are very likely to continue to do so, and increasingly so. However, contexts where ‘risk as opportunity’ appears to override the ‘risk as cost’ should not induce complacency amongst policy makers.

The potential for losses is considerable although managed through raising household property, relocating temporarily, shoring up dwellings on the outside and/or attempting to keep drainage channels working and cleared. It appears that these are the costs that some (poorer) people need to bear in order to afford their children a better opportunity than they had. Thus, costly, risk-prone environments are the price to be paid for some people in order to keep their children healthy, educated and, ultimately, to be able to form a household of their own.

The stark inequalities that run through the differential access and availability of assets means that some people bear more costs than others. It would appear that, if the costs of reducing the potential losses and actual losses are considered over a longer time frame, then they are more bearable. That is, if costs incurred because of flooding will be amortized over a lifetime, then they perhaps become more manageable. This does not change the unfairness of the poorest having to bear the costs in the first place.

Sub-set 4: De-registration of titles in wetland areas

The fourth sub-set of relocation and resettlement decision-making relates to the de-registration and cancellation of land titles in wetlands. This relates to the land market, which due to rights puts most land on the market and thus can be exchanged. This

decision at national level with state agencies is in line with the constitution that spells out the protection of natural resources including wetlands: the IUCN Ramsar wetland convention to which Uganda is a signatory. The criteria for de-registration are as follows: the wetlands for which certificates of title were issued should be in respect to Public land. Then the certificates of title proposed for cancellation should have been issued after 1995. The certificates of title for cancellation should include those arising from sub-divisions of the original land titles created after 1995 and those straddling wetlands/open water bodies, both dry land and open water, and both dry land and wetland. In the case of Kampala, some of these criteria are difficult to implement due to the nature of wetland boundaries that change with seasonality.

The surveying and re-surveying of wetlands is one of the activities to realize this option and decision. In this process, it is envisaged that the cadastral maps will be overlaid on top of wetlands as well as boundary maps to identify the plots and numbers that straddle the wetland and open water; the dry land and open water and dry land and wetlands. This would then be followed by screening the plots within the wetland boundary and ‘ground truthing’ to confirm the current status quo of the plots within the wetland. A list of land titles for cancellation will then be prepared and a declaration of vanquished status made.

Several agencies would have to take action including the Ministry of Lands, Housing and Urban Development, NEMA and KCCA. There are however complications in regard to this decision to determine vanquished wetlands. First of all, risk reduction is implicit but not the main reason for de-registration. But wherever flooding occurs, it is used to further justify the decision to de-register the wetland titles. Second, compensation of land title holders that acquired the titles before 1995 has remained a sticky issue in enforcing this decision by the state. Because of this complication, the State has issued several declarations and directives to de-register the land titles in wetlands but has not implemented them. From this perspective, the notion of value, costs and risks interact to influence the decision to de-register but also interrupt the same decision. Whereas the state values the wetlands from the ecological perspective, the owners of the land titles value it in monetary terms and unless their value is given, they may never relocate. But this only applies to titles on public land, which were issued before 1995.

Conclusions: A framework for assessing the costs and benefits of decisions on resettlement

The aim of this report has been to work through methods for assessing costs and benefits of decisions on resettlement. Its purpose is to *deliver a framework*, setting out the evaluation techniques that institutions and government (resettlement implementers) can use in practice in the pre- and post-planning phases of a project. In this section, we outline what we believe are the most important elements of a useful framework and what might need to be done to develop it further.

The framework that we have developed is described here in two stages. In the first stage, it became apparent that costs and benefits of risk reduction activities cannot be understood without relating costs and risks to values. The introduction of the mediating variable of ‘value’ disrupts the tendency to think in terms of a stable equation where costs and benefits exist in opposition to each other and must be reduced to a common denominator in order to be made comparable. Introducing ‘value/s’ – as we interpreted the respondents in the research doing – is productive in that it is difficult to reduce value/s to a single interpretation. Put another way, focusing on ‘value/s’ encourages policy makers and others to look for, and acknowledge other ways of thinking about urban environments, livelihoods, risks and development. This does not mean that the implementation of risk reducing infrastructure, for example, which has overridden other ways of valuing being in the city, is necessarily incorrect. But, what it does point to is that such approaches where there is a lack of acknowledgement of multiple values has a great potential to cause or worsen hardship.

In the value, cost, risk framework, ‘benefits’ are an outcome of the interactions between perceptions and experiences of value, cost, risk (which themselves are related to contextual factors). This is because risk is interpreted in two ways: risk-as-cost and risk-as-opportunity. ‘Benefits’ can be derived from either ‘risk-as-cost’ or risk-as-opportunity. That is, benefits are not mutually exclusive with costs. For example, respondents in Bwaise and Natete that are living in flood prone areas and incur financial costs for living there

(and when seeking to reduce risk) do still derive ‘benefits’ of living close to economic opportunities, schools, health facilities and other urban amenities. ‘Benefits’ are more easily associated with risk-as-opportunity. For example, living in a high risk area in order to make it feasible to engage in marginal economic activities.

As elaborated in the broader view of decision-making, there are, at least, four different sub-set configurations of values-costs-risks that inform decision-making by different groups of people.

Practically, we can image these different configurations as ‘layers’ (for example, households, landowners and local government) that exist simultaneously in relation to particular places in the city. Different decision-makers may think about things individually, yet this individualisation of risk is needing aggregation and thus requires the (local) government to come into play as the aggregator and thus

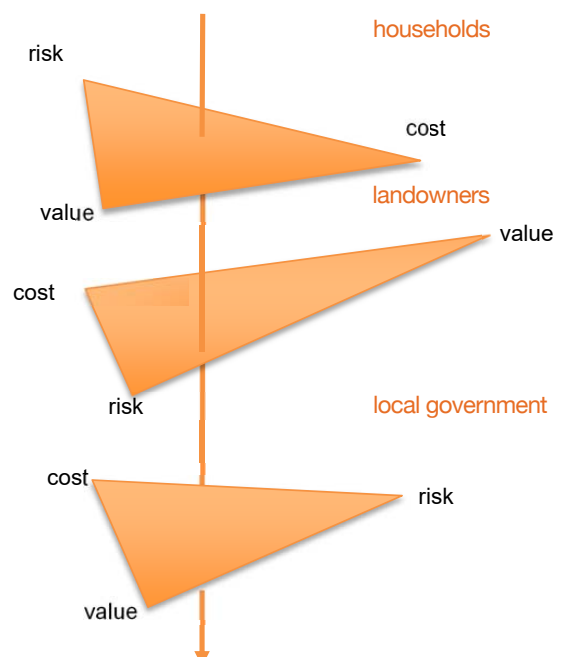


Figure 3: Multiple layers of value-cost-risk

arbitrator of claims, even though they are complicit in the production of risk in the first place. The skewer diagram above (Figure 3) introduces a different perspective/role for local government as it is not, at least not initially, an issue of aggregation but identification and mediation of the different types of value-cost-risk that exist. In practical terms, the suggestion of this framework is that 'conventional' cost-benefit analysis is still an important approach that offers particular insights into how different interventions can be valued. However, it is only one register and it is not

necessarily the most important. The recognition of 'value/s' as a mediating variable requires acknowledgement of particular relations because for 'value/s' to be valuable they need to be recognised as such by more than one party. Values/s emerge both within a context (or 'layer') and across 'layers'. The practical challenge is to identify approaches to reducing relocation and resettlement risk that can accommodate diverse forms of value, and devise approaches to mediate between the expressions of value-cost-risk that emerge.

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Appendix 1

Site identification and sampling

Within Kampala, we have identified 2 sites – Bwaise and Natete – from which to commence the research. The sites were identified after a scoping trip in June 2015 and follow-up trip in August 2015. Both sites are located within low-lying/wetland areas of Kampala. However, there are differences between Bwaise and Natete with regard to evictions in relation to drainage infrastructure expansion. Whereas in Bwaise, evictions have occurred, in Natete, the evictions are yet to occur. Within each site, different types of households

were identified and due to the potential evictions in Natete, slightly different samples of households were selected.

A team of 4 field researchers was trained in early November 2015 by the Research Team. The training included the refinement of the questions with the field researchers, piloting of the thematic interview schedules and subsequent adjustments to the instruments before actual research commenced. In addition to the thematic interviews, basic demographic data was generated on each

Target	Number
Household heads living in the area (including a mix of tenants and owners and male and female-headed households).	15
Household heads who have moved within Bwaise to reduce the risk of flooding (including a mix of tenants and owners).	5
Small and medium businesses (a variety of different kinds and sizes of businesses which are located in the flooding areas or which have moved due to flooding).	10
Evictees (household heads that have been evicted due to the construction of the drainage channel).	5
TOTAL	35

A total of 35 respondents were interviewed in Natete:

respondent. The demographic questionnaire was a structured questionnaire that drew directly on the wording of questions used by the Uganda Bureau of Statistics. The purpose of the demographic information is not to create any sense of representativeness of the sample, but to be able to identify the respondents within broad socio-demographic characteristics. Field research commenced in Bwaise in early December 2015 and was then conducted sequentially in Natete in late December 2015.

Because evictions have only been carried out in one of the sites, it was decided that the distribution of the

sample should slightly differ under the categories of targeted respondents.

The stratified sample of respondents who were living in the area (in both Bwaise and Natete) were randomly selected along a transect through the settlements. The transect deliberately crossed areas that were known to be susceptible to flooding. Where possible, field researchers recorded photographs of the local environs of respondents. Quality control was maintained through daily debriefing by Dr Lwasa to identify any emerging issues, select transects and recap the main issues under investigation for probing purposes.

Target	Number
Household heads living in the area (including a mix of tenants and owners and male and female-headed households).	10
Household heads who have moved within Natete to reduce the risk of flooding (including a mix of tenants and owners).	5
Small and medium businesses (a variety of different kinds and sizes of businesses which are located in the flooding areas or which have moved due to flooding).	6
Potential evictees (household heads that are facing eviction due to the construction of the drainage channel).	14
TOTAL	35

A total of 35 respondents were interviewed in Bwaise

