City Resilience in Africa:
A Ten Essentials Pilot

UNISDR

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My city is getting ready!

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ACKNOWLEDGEMENTS

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1. EXECUTIVE SUMMARY

In 2010, UNISDR launched a global resilient cities Campaign with the specific focus on improving urban cities' capacity to withstand and recover from natural disasters.

The Campaign is guided by three central principles to "Know more; Invest wiser; and Build safer, which are grounded in the Five Priorities of the Hyogo Framework for Action 2005-2015: Building the resilience of nations and communities to disasters [HFA]. As of October 2012, more than 1,200 cities had signed up the Campaign. By signing up to the Campaign, cities commit to take specific actions to build their resilience. These actions are guided by the "Ten Essentials for Making Cities Resilient"– a 10-point checklist of factors considered fundamental for cities to improve their resilience capacity, which was developed by UNISDR in conjunction with multiple stakeholders and partners. In 2012, the Campaign two tools to help local governments implement the Ten Essentials: The Handbook for Local Government Leaders and the Local HFA-Local Government Self Assessment Tool.

In 2012, UNISDR Regional office for Africa in Nairobi, Kenya commenced a pilot project to 'operationalise' the Campaign in three cities in Africa – Narok and Kisumu in Kenya and Moshi in Tanzania. The specific objectives of the pilot were to find out what disaster prevention activities cities were undertaking, make a preliminary assessment of city resilience according to the Ten Essentials and in doing so, understand the Ten Essentials framework in a local African city context.

The cities of Narok, Kisumu and Moshi were selected because they had signed up for the Campaign and were very keen to have their cities included in any preliminary work being undertaken by UNISDR.

The pilot study incorporated three key elements – 1] Developing a questionnaire based on the Ten Essentials to explore city resilience and what disaster risk reduction [DRR] actions, plans and local alliances are in place specifically in relation to DRR. 2] Information on these elements were obtained from key stakeholders including local government, relevant non-governmental organisations and emergency service operators 3] Stakeholders were asked to make a quantitative assessment of their cities readiness and resilience according to the 10 Essential framework.

A series of workshops and meetings were then held at each city. Field visits were also undertaken to get 'first-hand' experience of the types of challenges facing cities in their DRR work and to find out at what level cities are in regard to DRR resilience.

The following key outcomes emerged.

OVERALL ASSESSMENT OF CITY RESILIENCE

Participating Pilot cities are vulnerable to 1] flood events and 2] drought events [social unrest was mentioned as an issue but was in conjunction with a natural disaster]

Rural farming practices, deforestation and charcoal production were identified as having a dramatic impact on severity of flood events highlighting the rural-urban linkages in relation to city Resilience

Pilot cities are [mostly] overwhelmed during a flood event. Interventions and support are limited and uncoordinated.

Local governments are not well equipped to respond to disaster events. They are limited by funds, capacity [knowledge and coordination], infrastructure and slow administrative links with regional and national authorities

Immediate disaster response relies heavily on international non-governmental organizations.

DRR is not integrated into planning agendas for any of the 3 Pilot city local governments.

There is recognition, however, of DRR's value, importance and potential to guide and improve city wide DRR activities.

All pilot city local governments are struggling to meet basic urban infrastructural needs to address basic urban infrastructure issues [such as clean water, waste management disposal, drainage systems, rapidly expanding city boundaries due to significant growth in city populations and informal settlements]. As a result, DRR has not been perceived as a priority.

FORMAL pilot city resilience is thus limited with regard to the current 10 Essential Framework.

INFORMAL city resilience capacities are present as evidenced by the local community indigenous knowledge on weather patterns, previous experience and knowledge of disaster events and how to manage them, individual actions to reduce risk/impact, local informal support networks.

There is a variety of 'capacity' in local government to understand and address DRR. For many staff, DRR is a new concept and not one that resources have enabled much discussion or training even though many acknowledge the need for DRR work.

Each city has a wide spectrum of different NGO's, community based organisations's, higher education institutions and emergency services who all have individual agency programmes consisting of projects that do not prioritise disaster risk reduction in the pilot cities, but choose to target rural areas based on the poverty and vulnerability index.

National governance issues can affect the capacity of local government to undertake DRR activities. For example:

In Kenya the draft national disaster management policy is yet to be enacted into law. This policy vacuum has made it complex for pilot local governments to invest in DRR as there is no official DRR budget allocation from the central government.

In Kenya there exists a National Disaster Risk Management Strategic plan that has just been finalised by the Ministry of State for Special Programmes but it is yet to be operationalized at county level.

Kenya is also in a state of transition due to constitutional change influencing institutional arrangements. This affects local government's ability to formulate accurate effective long term strategic plans on how to carry out DRR for the next five years.

In Tanzania, there is an operational Disaster Management Policy, however, it is also not felt in Moshi with regard to budgetary allocation and strengthening coordination synergies between these three administrative levels.

In both Kenya and Tanzania, regional and national authorities are perceived to be of limited support for DRR activities. Despite the Regional authorities mandate (via the District Commissioner's office/ Regional Authority in both Kenya and Tanzania) to coordinate disaster responses, there is limited work on DRR due to long bureaucratic systems of Government and a culture of being reactive in planning.

10 ESSENTIAL ASSESSMENT SUMMARY OF PILOT CITIES

Below is a summary of the each pilot city's DRR activities as per the Ten Essentials.

Essential 1. *Institutional and administrative frameworks*

There are no city specific disaster risk management policy or strategic plan in any of the pilot local governments

There is also a lack of technical capacity to allocate focal personnel to address issues adhering to risk reduction based on the current local government governance structure.

DRR is not integrated into the planning agenda for most stakeholders including community based organisations. Most organisations are response orientated and issue based. In addition, there are limited formal DRR alliances.

Essential 2. *Financing and Resources*

Due to a lack of policy there is NO budget attached to DRR in any of the pilot local governments (and often very limited budgets for basic council work across all departments)

Essential 3. *Multi-Hazard Risk Assessment – Know Your Risk*

There is no formal DRR data collected at the city wide scale nor is there a forum to share information and data. Two of the three pilot Local governments had some health related data but these were paper based (so no electronic databases were in place).

Some emergency services have 'incidence data'. Some universities have data development capacity (GIS mapping) but no DRR data per se. Very few NGOs have DRR data. The meteorological

departments perceived to have some data but no formal structures to share information with local stakeholders. Regional government (such as the District Commissioner's office who coordinates Disaster response) does not collect data. Local communities (including local government) have significant informal and local/indigenous knowledge of hazard risks, weather patterns and response activities

Essential 4. *Infrastructure Protection, Upgrading and Resilience*

Infrastructure development and protection activities are very limited.

All pilot cities are struggling to address basic urban infrastructure needs, particularly in expanding informal settlements.

Essential 5. *Protect Vital Facilities: Education and Health, (Food and Water) supplies*

In general most educational and health facilities are not physically affected by floods except in Kisumu where there are at least 6 facilities within the city that are vulnerable to flood events. Three have purpose built evacuation centres and 3 more are planned

The capacity of all public hospitals in all three pilot cities is limited in terms of dealing with a sudden influx of sick patients. Facilities, resources, staff numbers and training are very limited

Food security is greatly affected by drought in all pilot cities.

Water supplies are significantly affected in flood prone areas and in some downstream areas in all three pilot cities

Essential 6. *Building Regulations and Land Use Planning*

Local governments have good formal building codes in place (from both Kenyan and Tanzanian national governments) but lack of enforcement is a common issue in most cases.

Land use planning is inadequate and the enforcement of land use policies is carried out in an ad-hoc manner.

Essential 7. *Training, Education and Public Awareness*

There is very limited training, education and public awareness Campaigns being undertaken in any of the three pilot cities (Kisumu has some training in some schools).

Essential 8. *Environmental Protection and Strengthening of Ecosystems*

No formal links (policies and plans) were identified between DRR, climate change, natural resource and environmental management.

Some Council participants understand the link between DRR, climate change, natural resource and environmental management.

Some non-government organisations and local communities are undertaking work in this area but it is limited.

Essential 9. *Effective Preparedness, Early Warning and Response*

There is no strategic plan, emergency response plan or budget allocated for DRR in any local government or community based organization with the exception of emergency response services in the pilot cities

Most knowledge is informal – local or indigenous knowledge.

Essential 10. *Recovery and Rebuilding Communities*

There are no formal recovery plans adopted by any organisation in the town including the City Council in all three pilot cities. Early recovery and long term recovery interventions are not carried out but for reconstruction of affected informal settlements by the indigenous communities therefore rebuilding risk.

REVIEW OF THE TEN ESSENTIALS FRAMEWORK AND APPROACH IN PILOT CITIES

The DRR focused consultation process for this pilot was beneficial for both local governments and external city-wide stakeholders. It provided a specific opportunity to discuss DRR and build DRR capacity.

The Ten Essentials were a good basis for discussion but needed to be modified to the pilot city's contexts.

The ranking process was somewhat difficult for participants and information/assessment value for UNISDR might be limited at this stage given there is almost no DRR work being undertaken.

Any future engagement process should have a dedicated time to building DRR knowledge and capacity so that participants are better informed about key DRR themes, the Resilient Cities Campaign and the Ten Essentials Framework. In doing so, participants will be in a stronger position to engage with and respond to specific questions about DRR activities in their cities and their specific work context.

OVERALL RECOMMENDATIONS

Enable the Ten Essentials assessment to be measured through a DUAL PROCESS of engagement and consultation as well as an online self-assessment activity. Most stakeholders want to engage with UNISDR and discuss DRR. Engagement provides the opportunity for capacity building. Many stakeholders have limited computer access thus limited capacity to undertake the Local HFA-Local Government Self Assessment Tool on-line.

Support local governments to develop DRR tools.

Strengthen the 10 Essential Framework's capacity to capture the impact of governance issues on city level DRR work.

Strengthen the 10 Essential framework's capacity to account for urban-rural and peri-urban issues that affects many African towns and cities (deforestation, farming practices, energy issues, cultural traditions, informal settlement expansion).

Strengthen the 10 Essential framework's capacity to account for the basic urban infrastructure issues that many cities in Africa are still grappling with (infrastructure development and maintenance, basic urban planning, informal settlement expansion, rural urban migration, service provision).

Develop a practical knowledge and information section on the Campaign website to provide templates and 'best practice' examples of items such as policies, strategic plans, issue orientated solutions to specific disaster types, partnership building for example.

Make the writing up of Africa Specific Best Practices a Campaign priority. Pilot city participants want to know what practical actions can be taken to improve DRR and want examples from Africa because they are seen as most relevant.

Strengthen the Campaign message about why cities should be involved and how UNISDR is going to specifically assist.

Strengthen the communication strategy to participant cities so they can be informed of the Campaign's progress. Make the strategy appropriate for the African city context.

2. INTRODUCTION

In 2010, UNISDR launched a global resilient cities Campaign with the specific focus on improving urban cities' capacity to withstand and recover from natural disasters.

A key part of the Campaign was the development of the '10 Essential' - a list of factors considered fundamental for cities to improve their resilience scapacity. A framework for assessing city resilience was thus developed by UNISDR based on the Ten Essentials.

In 2012, UNISDR Regional office in Nairobi, Kenya commenced a pilot project to 'operationalise' the Campaign in 3 cities in Africa – Narok and Kisumu in Kenya and Moshi in Tanzania.

2.1 OBJECTIVES OF PILOT STUDY

The specific objectives of the pilot were to:

Identify what disaster prevention activities cities were undertaking;

Make a preliminary assessment of city resilience (via DRR activities) according to the Ten Essentials, and;

Utilise and understand the Ten Essentials framework in a local African city context.

The consultancy was for 1 month, from 1 – 31 March, 2012 with the consultants based in Nairobi, Kenya.

2.2 RESILIENT CITIES Campaign AND THE HYOGO FRAMEWORK OF ACTION FOCUS ON AFRICA

The 'HYOGO FRAMEWORK OF ACTION 2005-2015: Building the resilience of nations and communities to disasters' was adapted at the world conference on disaster reduction (KOBE 2005). The Hyogo Framework for Action (HFA) specifies that disaster risk is compounded by increasing vulnerabilities related to various elements including unplanned urbanization, (Reducing Urban Risk in Asia, ISDR et al 2007)

The HFA framework has Five Priorities: (1) Making disaster risk reduction a priority (2) Improving risk information and early warning (3) Using Knowledge and information to build a culture of safety and resilient (4) Reducing the underlying risk factors (5) Strengthening preparedness for effective response. These five action priority areas, along with the UNISDR Handbook for Local Government Leaders, formed the basis upon which the pilot framework is based.

3. BACKGROUND TO CITIES

The background to each city provided below highlights some of the underlying factors that make the three cities vulnerable to hazards. Each city has a different level of hazard, risk and vulnerability to the other and this is significant when making a comparison on how resilient they are to natural disasters.

3.1 NAROK PROFILE, KENYA

Location: Narok town is located on the southern side of the Rift Valley. It borders Tanzania to the south, Trans Mara to the west, Kajiado to the east, Bomet and Nakuru to the south. It lies between Latitudes 0 50' and 2 05' South and longitudes
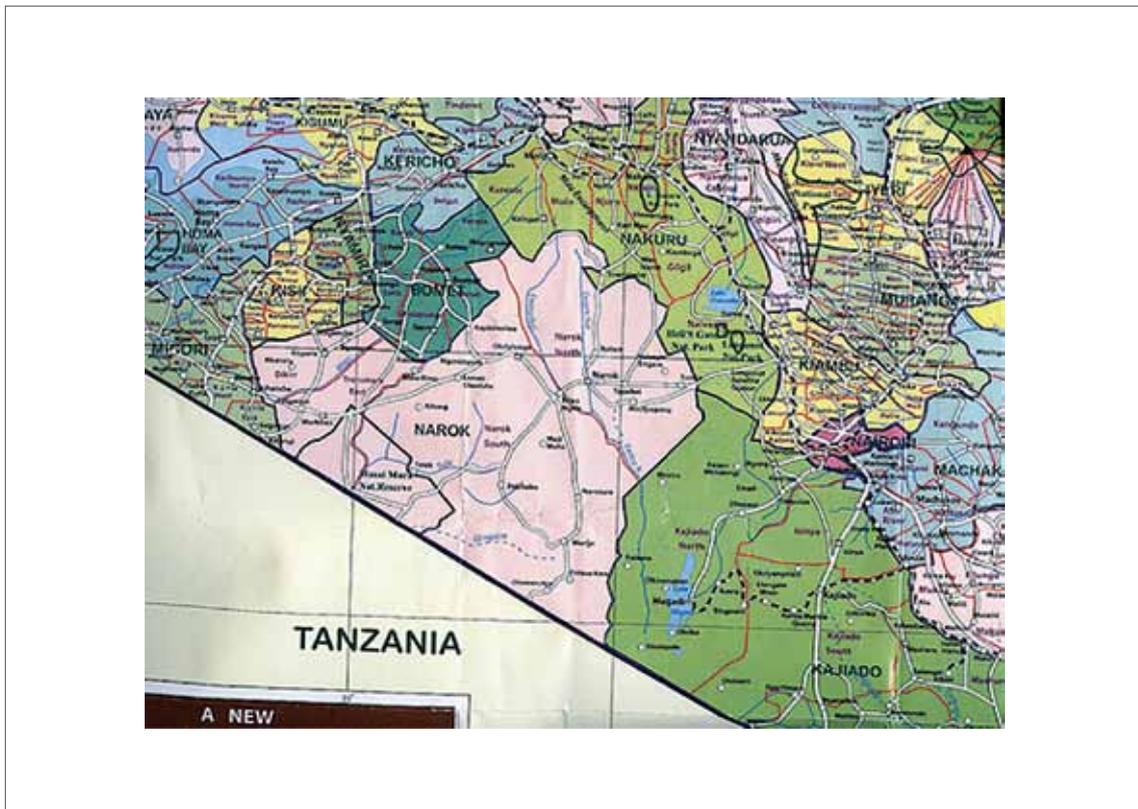
35 58' and 36 05' East. Narok town serves two constituencies, namely, Narok North and Narok South; there are two local authorities namely, Narok County Council and Narok Town Council, with fifty-eight electoral wards. Narok County has a varying topography with altitude ranging from 3,098 meters above sea level in the highlands to 1,000 meters above sea level in the lowlands. The highlands, which consist of the upper Mau, Olokuto, and Mulot Divisions, are crop growing areas for wheat, barley, maize, beans and potatoes. Soils are fertile, rainfall reliable (ranging from 1200mm to 1800 mm per annum); and temperatures moderate (ranging from 10` to 15` centigrade). (Narok District Development Plan 2002-2008)

Medium scale farmers growing crops inhabit the peri urban areas surrounding Narok town. Zero grazing is also practiced. The lowlands cover Ololulunga, Mara, Loita and Osupuku Divisions are mainly used by Maasai pastoralists for livestock grazing rearing. Altitude ranges from 1400 to 1800 meters above sea level. The temperature ranges from 5`C in July to 28`C in November to February.

Narok town is lies on the lowland and is bordered on both sides by highlands. There are two main highways passing through the Narok town. The road going from Nairobi the capital city to Bomet and the road going to Nakuru town

Population: Narok is a town of around 60,000 inhabitants. The town is the last major town on the way to the largest game reserve in Kenya, the Maasai Mara and thus serves as a small hub for tourism. The town has major food outlets and supermarkets, schools etc. The majority of the labour work force in Narok is unskilled and consists of females who carry out trade. Poverty is rampant or more visible in the lowland area where the town is located. Despite this, Narok County Council receives significant revenue from the Maasai Mara game reserve (though it is not clear how much the Narok city Council benefit).

Hazards: Narok County has ownership of the Konyo catchment which is about 9km. Narok's drainage proceeds south from Mau escarpment through two seasonal tributaries known as River Siapei and River Narok. They flow south into the much larger River Ewaso Ng`ro which flows southwards to Tanzania. The two main tributaries pass through the centre of Narok Town in the lowland valley causing flood havoc during the rainy season. Narok
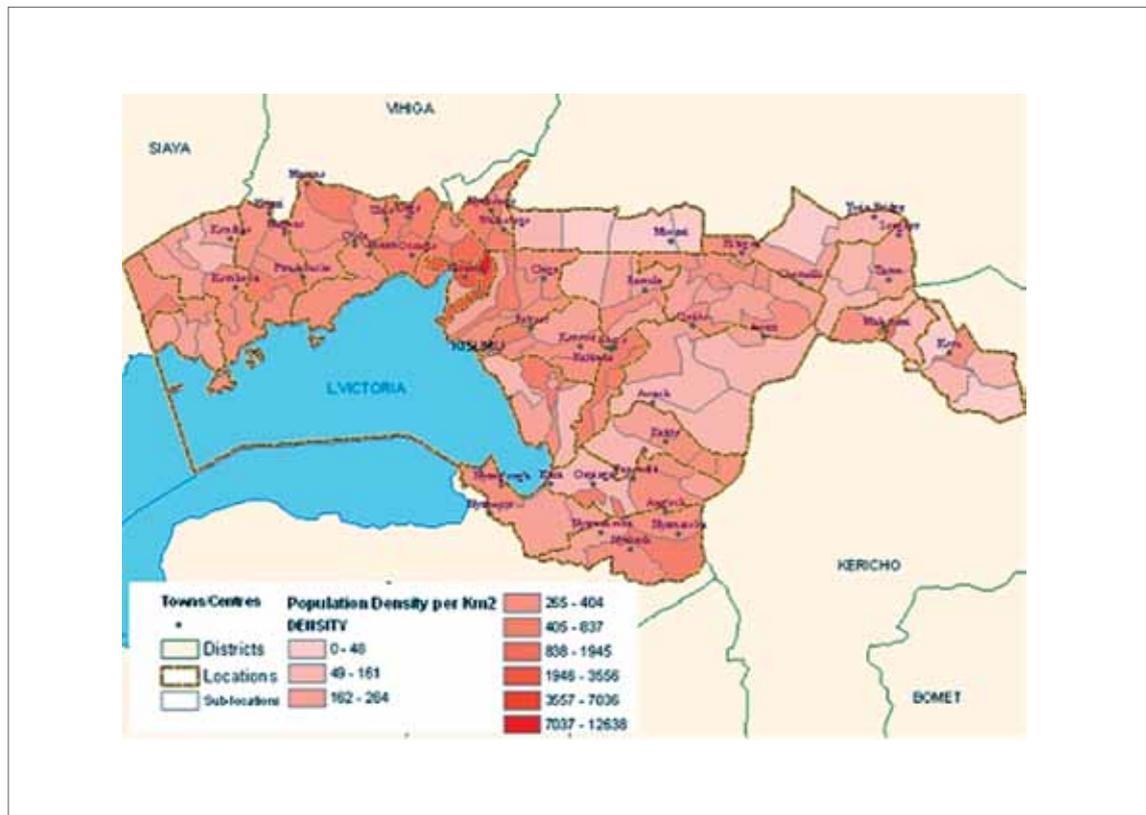

Table Ref (Kisumu District Strategic Plan 2005-2010)

County is two-third semi-arid. The combination of these natural factors combined with major deforestation in the area results in major floods through Narok at least 3-4 times a year.

3.2 KISUMU PROFILE, KENYA

Location: Kisumu town is located in the western part of Kenya called Nyanza Province. It has ownership of the Lake Victoria basin on the Kenyan side (Lake Victoria extends through to Uganda). It is located on latitude 00`06` south of the equator and longitude 34`45` East of Greenwich. The town has a population of 200,000 inhabitants the third largest town in Kenya. Kisumu is also the third largest urban centre in western Kenya. It has an altitude ranging from 1131 meters to 1186 meters above sea level. Kisumu receives an average annual rainfall ranging from 875mm to around 1250mm. Mean annual temperature is 23`centigrade with highest recording being 37`centigrade.

Population: Kisumu has developed rapidly from a railway terminus and internal port in 1901, to become the leading commercial/trading, industrial, communication and administrative centre in the Lake Victoria basin, an area that traverses three provinces of Nyanza, Western and western Rift Valley. In addition, Kisumu serves as the communication and trading confluence for the Great Lakes region - Tanzania, Uganda, Rwanda and Burundi. Its major activities are fishing and transport of goods to other parts of Kenya and Tanzania and Uganda. The population is around 576,256 as per the 2010-2015 Kisumu Strategic Plan and is expected to grow at a rate of around 2.8 per cent. Principally, it is the leading commercial/trading, fishing, industrial, communication and administrative centre in the Lake Victoria basin. It is also the transportation hub for the western region, linking Kenya to the East African Countries via Rail, Road, Water and Air Inland depot for oil and containerised cargo serving the wider great lakes region Host to Lake Victoria Regional Bodies including the EAC Lake Victoria Commission

Hazard: Kisumu town is affected mainly by floods because the topology of the land is mainly a flat gradient. Kisumu lies along the Nyando river basin in western Kenya. It stretches from the Nandi hills to the East and Tinderet forest in the Rift Valley. The Nyando river catchment empties its water into Lake Victoria. The upper part of the Nyando River basin lies between 1800 and 3000 meters above sea level. The river Nayando basin covers three areas, Muhoroni, Kisumu East and Kano plains. There are two rainy seasons in the Nyando river basin. The long rains occur in March – May and the short rains fall in October – December. There are various springs that feed into the main river such as Awach, Nyalbiego, Asawo, Ombeyi, Miriu, Sondu, Omondo, Nyaidho, Nyamasaria and Auji. In Kisumu town Nyamasaria and Auji seasonal streams cause a lot of flooding in Nyalendo informal settlements extending up to the Dunga sewerage and waste disposal treatment plant.

3.3 MOSHI PROFILE, TANZANIA

Location: Moshi town is located on the north eastern part of Tanzania bordering Kenya to the north and Arusha to the west. It is one of the towns at the foot of Mt. Kilimanjaro with an area of 43sq kilometres. It has Latitude south of the equator 3° 21' and Longitude 37° 20' East of Greenwich. Moshi is a historical town dating back to 1897 when German traders occupied the land and it has since been influenced by the completion of the railway line from Dar es Salaam.

Population: The population is estimated to be around 150,000 inhabitants. Since Moshi is a scarce land town some of the inhabitants have migrated to neighbouring towns in search of land. Moshi is renowned for its cleanliness with a very robust town council and good transport networks. The road network consists of 11 roads extending 964 kilometres into peri-urban and rural areas. It is also very close to the Kilimanjaro International Airport providing investment opportunities in Moshi. Moshi town is in the middle of fertile agricultural land where coffee, bananas, maize, rice and vegetable are grown. The town therefore works as a market hub.

Moshi town is affected by drought and floods. In 2006 Moshi was affected by drought subsequently communities that were trying to recover from the disaster impact were affected by floods that destroyed food crops creating insecurity. Moshi has suffered flooding from the Arau River, and the Njoro River. Informal settlements in Matindigani have been the main victims of flooding. Moshi also neighbours the snow-capped Mt.Kilimanjaro which is a volcanic mountain. It has two extinct cones (Kibo and Shira) while one cone (Kibo) remains dormant.

4. METHODOLOGY

A combined methodology was adopted using both qualitative and quantitative methods reflecting the current structure of the Ten Essentials framework as outlined in UNISDR's DRAFT Handbook for local government leaders which has both qualitative questions and a quantitative ranking system.

4.1 SAMPLE SELECTION

Three cities were chosen to be part of the Making Cities Resilient Campaign pilot study. Two cities: (Kisumu and Narok) in Kenya and one city (Moshi) in Tanzania. All three cities have signed up to the Resilient Cities Campaign and are aware of UNISDR's work in disaster risk reduction. The three cities have made an overarching political commitment to be part of the resilient cities Campaign.

Given the Resilient Campaigns focus on key city wide stakeholders, it was considered important that both local government/council staff be consulted as part of the process as well as non-governmental key stakeholders such as community leaders, NGO's, those working in academia, health, community services, education in addition to others.

To organize the consultations with the local government, a letter of introduction was initially sent out to city council representatives. This was followed by phone calls and detailed letters which outlined the purpose of the consultation process and what assistance would be required.

The consultation process relied on the local government nominating relevant staff representatives from key departments to participate in a consultative meeting.

The consultation process also sought to gain input and perceptions from key stakeholders in the broader community including International NGO's, academia, health service providers, health and safety regulatory parastatals, Community based organizations, district disaster management committees, private sector businesses in

vulnerable areas, community leaders, emergency services and the general public.

4.2 DATA COLLECTION TOOLS:

Data collection was carried out using a qualitative questionnaire based on probing responses to the Ten Essentials and a ranking sheet asking respondents to rank city readiness according to the Ten Essentials. The questionnaires were administered by way of consultative focus group meetings. In general, separate meetings were held for local government key stakeholders and non-government actors to promote the free flow of ideas and opinions. In some instances however, some groups were mixed where local government organisers had combined some meetings.

The questionnaire was developed based on the Ten Essentials framework and the DRAFT Resilient Cities handbook document, where each essential had been further refined and discussed in more detail. The questionnaire was also developed with consideration of the Kenyan and Tanzanian context. It was recognized that each pilot city might be at a very different stage of development in terms of risk resilience knowledge and capacity.

A hands on and 'face to face' consultation process was therefore recognised as important to ensure that the Ten Essentials would be presented in a way that local government officials would understand and relate to.

The framework was also refined slightly considering the Hyogo 5 priority action areas as per the UNISDR DRAFT Handbook for local government Leaders [UNISDR] but also in terms of making the framework relevant to the pilot city contexts and their potentially varying DRR capacities. One of the modifications to the current Ten Essentials was to add a question about water and food supplies as part of the question sequence for Essential 5. Research suggests that Food and Water supplies are often affected during natural disasters and it was felt that their availability and reliability should be considered in an African city assessment. In addition, Essential 2 on Budget and Financial Resources was also modified. Questions were not asked about incentives knowing that most local governments in many African cities cannot meet basic infrastructure needs let alone provide individual and tailored financial incentives.

The rank questionnaire was also based on the 10 Essential questionnaire but a few modifications were made to the rank system to ensure it was expressed in its most simple form while retaining the essence of the ranking in the handbook. A rank system of one to five was adopted but presented to participants as referring to minor or least and 5 referring to highest/extemporary. Discussions with UN Habitat staff who had worked in Kigali with the Ten Essentials framework had emphasised the importance of keeping the 5 scale ranking system very simple as a more detailed description was not utilised by participants in their consultation process.

The simplest ordinal skill is a ranking system. Unlike nominal data, it has no objective distance between any two given points. Since it uses parametric statistics such as median and mode, it is therefore set on a subjective skill. Thus, in order to derive an overall perception, the ranking results were supported by qualitative data to provide useful information that would verify the data collected. With regard to various Essentials, it was clear that the ranking results from some responses, were an over estimation of the actual reality.

The ranking scale provide to the respondents was according to the following scale;

1- Least or minor
2- Less than Satisfactory
3- Satisfactory
4- More than Satisfactory
5- Highest Comprehensive level

A SWOT analysis [Strengths, Weaknesses, Opportunities and Threats Analysis] was also undertaken as part of the data collection approach as a way to verify the issues raised and covered in the 10 Essential discussion and to ensure that all strengths and opportunities as well as challenges facing each city as per work on DRR, were adequately and accurately captured. The SWOT was usually undertaken at the end of the 10 Essential discussion process using a flip chart so all could make comments and see the key issues written down (see Appendix 6 for SWOT).

See Appendix 5 for copies of Questionnaire and Ranking sheet used and Appendix 1 to 6 for other

key documents related to risk assessment and key UN staff consulted with when developing the questionnaire.

5. RANKING RESULTS

The graphs below summarise the perception ranking for each pilot city for each Essential. It should be noted that in many instances, it was felt that the ranking results were not always consistent with the qualitative results.

Essential 1. Institutional and administrative frameworks

Put in place the organisation and coordination (frameworks) to understand and reduce disaster risk, based on the participation of citizen groups and civil society. Build local alliances and ensure that all departments understand their role in disaster risk reduction and preparedness

NAROK

The ranking results show that 61% of the respondents in Narok perceive that the town has very little capacity with regard to institutional framework in place for disaster risk reduction. 27% of the respondents believe that Narok has less than satisfactory but an available framework, while 9% did not know. 3% of the respondents stated that the institutional framework was more than satisfactory and allocated the highest rank.

MOSHI

The ranking results show that 40% of the respondents in Moshi perceive the town as having satisfactory institutional frameworks to carry out disaster risk reduction. 36% of the respondents believe that the framework was more than adequate while 18% of the respondents believe the institutional framework to be less than satisfactory. 6% of the respondent's in Moshi perceive the institutional framework to be very comprehensive and allocated the highest rank.

KISUMU

The ranking results show that 45% of respondents in Kisumu perceive the institutional capacity of the town as satisfactory. 36% of the respondent's perceive the framework to be less than satisfactory.

9% of the respondents perceive the institutional framework to be more than satisfactory while 9% of the respondents believe the framework to be very poor in its capacity to carry out disaster risk reduction.

Essential 2. Financing and Resources

Assign a budget for disaster risk reduction and provide incentives for homeowners, low income families, communities, business and public sector to invest in reducing the risks that they face

NAROK

The ranking results show that 55% of respondents in Narok town perceive the town to have none or very little financial resources to invest in reducing risk to disaster. 18% of the respondent's in Narok perceive the budget to be satisfactory. 15% of the respondents in Narok believe the resources are less than satisfactory but present while 12% perceive the resources as more than satisfactory.

MOSHI

The ranking results show that 40% of the respondents in Moshi perceive the town to have satisfactory financial resources to invest in disaster risk reduction. 33% of the respondents believe the financial resources to be less than satisfactory. 15% of the respondents in Moshi town perceive the financial resources as not being available or very little while 9% of the respondents identified the resources as being more than satisfactory.

KISUMU

The ranking results show that 64% of respondents in Kisumu town perceive the town as having zero or very little financial resources to invest in reducing risk to disaster. 18% of the respondent's in Kisumu do not know. 9% of the respondents in Kisumu believe that the resources are less than satisfactory while 9% perceive the resources to be satisfactory.

Essential 3. Multi-Hazard Risk Assessment – Know Your Risk

Maintain up to date data on hazards and vulnerabilities, prepare risk assessments and use these as the basis for urban development planning

NAROK

The ranking results show that 67% of respondents in Narok town stated the town does not maintain an updated database on hazards and vulnerabilities. 12% of the respondent's in Narok stated there is a system of storing data and thought that it was satisfactory. 9% of the respondents in Narok believe that their data storage is less than satisfactory While 6% perceive the data management of hazards and vulnerabilities to be more than satisfactory. 6% of the respondents felt that the database was comprehensive and exemplary meeting the highest rank.

MOSHI

The ranking results show that 43% of respondents in Moshi town stated the town maintains an updated database on hazards and vulnerabilities however in hard copy. 36% of the respondent's in Moshi perceived the system of storing data as satisfactory while 6% of the respondent's perceive the data management of hazards and vulnerabilities to be more than satisfactory,. 12% of the respondents in Moshi believe their data storage is less than satisfactory, while 3% of the respondents felt it was non-existent.

KISUMU

The ranking results show that 45% of respondents in Kisumu town stated the town does not maintain an updated database on hazards and vulnerabilities. 27% of the respondent's in Kisumu perceive the system of storing data as satisfactory. 18% of the respondents in Kisumu believe their data storage is less than satisfactory. 9% of the respondent's perceive the data management of hazards and vulnerabilities to be satisfactory.

Essential 4. Infrastructure Protection, Upgrading and Resilience

The Essential element 4 sought to identify Invest in and maintenance of Infrastructure that reduces risks such flood drainage, adjusted where needed to cope with climate change

NAROK

The ranking results show that 59% of respondents in Narok town stated the town does not maintain and invest in infrastructure that reduces risk to hazards such as flood drainage. 18% of the respondent's in Narok stated that the level of investment in infrastructure is less than satisfactory. 14% of the respondents in Narok stated that they did not know, while 9% of the respondents stated that that the level of investment is adequate.

MOSHI

The ranking results show that 50% of respondents in Moshi town stated the town invests in infrastructure that reduces risk such as flood drainage. 18% of the respondent's in Moshi stated the level of investment is less than satisfactory. 18% of the respondents in Moshi felt that the level of investment is more than satisfactory. 5% of the respondents stated that the level of investment in infrastructure that reduces risk is non-existent while another 5% believe it to be exemplary and allocated the highest rank. 4% of the respondents did not have a response.

KISUMU

The ranking results show that 27% of respondents in Kisumu town stated the town invests in infrastructure that reduces risk such as flood drainage but it's less than satisfactory. Another 27% of the respondent's in Kisumu stated the level of investment is very negligible and allocated the lowest rank. 18% of the respondents in Kisumu town felt that the level of investment is satisfactory. 27% of the respondents demonstrated lack of awareness of what the investments in infrastructure were.

Essential 5. Protect Vital Facilities: Education and Health, [Food and Water] supplies?

Assess the safety of schools and health facilities, [food and water supplies] and upgrade these if necessary?

NAROK

The ranking results show that 46% of respondents in Narok town stated the town does not protect vital facilities that provide education and health and allocated the lowest rank. 25% of the respondent's in Narok stated that the town activity to protect these facilities is satisfactory. 15% of

the respondents in Narok felt this to be less than satisfactory. 9% of the respondents stated that the town protected most schools and health facilities against disaster and allocated the highest rank while 5% did not know.

MOSHI

The ranking results show that 42% of respondents in Moshi town stated the town's effort to protect vital facilities that provide education and health is satisfactory. 24% of the respondents in Moshi town felt this to be less than satisfactory while another 24% did not know. 5% of the respondents stated that the town protected most schools and health facilities against disaster and allocated the highest rank while the other 5% stated that the town did little or nothing to protect schools and health facilities.

KISUMU

The ranking results show that 45% of respondents in Kisumu town stated the town's effort to protect vital facilities that provide education and health is less than satisfactory. 18% of the respondent's in Kisumu stated that the town activity to protect these facilities is less than satisfactory while another 18% did not know. They highlighted the need for clarity and communication from the authorities regarding such efforts. 9% of the respondents stated that the town protected most schools and health facilities against disaster and allocated the highest rank.

Essential 6. Building Regulations and Land Use Planning

Apply and enforce realistic risk compliant building regulations and land use planning principles. Identify safe land for low-income citizens and develop upgrading of informal settlements wherever feasible

NAROK

The ranking results show that 37% of respondents in Narok town stated the town does not enforce building regulations and land use planning to reduce disaster risk. 21% of the respondent's in Narok town thought the town's effort is less than satisfactory while another 21% of the respondents perceive it to be less than satisfactory. 15% of the respondents in Narok did not know while 6% of the respondent's perceive the town is effectively enforcing building codes and land use planning to reduce disaster risk and allocated the highest rank.

MOSHI

The ranking results show that 37% of respondents in Moshi town stated that they did not know to what level if any the town enforces building regulations and land use planning to reduce disaster risk. 33% of the respondent's in Moshi town thought the town's effort is satisfactory while another 15% of the respondents perceive it to be less than satisfactory. 12% of the respondents in Moshi perceive the town is not effectively enforcing building codes and land use planning to reduce disaster risk and allocated the lowest rank while 3% of the respondents stated the opposite allocating the highest rank.

KISUMU

The ranking results show that 9% of respondents in Kisumu town stated that they did not know to what level if any the town enforces building regulations and land use planning to reduce disaster risk while another 9% of the respondent's in Kisumu thought the town's effort is more than satisfactory. 45% of the respondent's in Kisumu perceive the town's effort as satisfactory. 18% of the respondent's perceived it to be less than satisfactory while another 18% of the respondents in Kisumu town perceived the town is not effectively enforcing building codes and land use planning to reduce disaster risk and allocated the lowest rank.

Essential 7. Training, Education and Public Awareness

Ensure education and training programs on disaster risk reduction are in place and in schools and local communities

NAROK

The ranking results show that 64% of respondents in Narok town stated the town does not have activities for disaster risk reduction awareness building. 21% of the respondent's in Narok town thought the town's effort is less than satisfactory while 6% of the respondents perceive it as satisfactory. 9% of the respondents in Narok did not know.

MOSHI

The ranking results show that 43% of respondents in Moshi town stated the town's activities for disaster risk reduction awareness building are less than satisfactory. 27% of the respondent's in Moshi town thought the town's effort is more than satisfactory while 24% of the respondents perceive it as satisfactory. 3% of the respondents in Moshi town stated that the activities were negligible and allocated the lowest rank while another 3% did not know.

KISUMU

The ranking results show that 27% of respondents in Kisumu town found the towns activities for disaster risk reduction awareness building to be more than satisfactory while another 27% of the respondent's in Kisumu town thought the town's effort is less than satisfactory. Yet another 27% of the respondents thought the activities in the city were satisfactory. Finally, 18% of the respondents in Kisumu town stated that the activities were negligible and allocated the lowest rank.

Essential 8. Environmental Protection and Strengthening of Ecosystems

Protect ecosystems and natural buffers to mitigate floods, storm surges and other hazards to which your city may be vulnerable. Adapt to climate change by building on good risk reduction practices.

NAROK

The ranking results show that 49% of respondents in Narok town stated the town's activities to protect the environment and strengthen eco systems for disaster risk reduction are negligible or non-existent and hence allocated the lowest rank. 15% did not know while 12% found the towns effort as less than satisfactory. 3% of the respondent's in Narok town thought the town's effort is more than satisfactory while 18% of the respondents perceive it as satisfactory. 3% of the respondents in Narok town stated that the activities were exemplary and allocated the highest rank.

MOSHI

The ranking results show that 46% of respondents in Moshi town stated the town's activities to protect the environment and strengthen eco systems for disaster risk reduction are more than satisfactory 36% of the respondents found it to be satisfactory. 15% found the towns effort as less than satisfactory. 3% of the respondent's in Moshi town stated that the activities were exemplary and allocated the highest rank.

KISUMU

The ranking results show that 27% of respondents in Kisumu town stated the town's activities to protect the environment and strengthen eco systems for disaster risk reduction are satisfactory while another 27% did not know. 18% of the respondents found the towns effort as less than satisfactory while another 18% of the respondent's in Kisumu town thought the town's effort is more than satisfactory. 9% of the respondents perceive it negligible or non-existent and allocated the lowest rank.

Essential 9. Effective Preparedness, Early Warning and Response

Install and develop preparedness plans, early warning systems and emergency management capacities in your city and hold regular public preparedness drills

NAROK

The ranking results show that 58% of respondents in Narok town stated they did not have disaster preparedness plans and early warning systems in place, therefore allocating the lowest rank. 15% of the respondents in Narok state that the level of preparedness is satisfactory while another 15% felt this to be more than satisfactory. 12% of the respondent found this to be less than satisfactory.

MOSHI

The ranking results show that 9% of respondents in Moshi town stated they did not have disaster preparedness plans and early warning systems in place, therefore allocating the lowest rank. 27% of the respondents in Moshi town state that the level of preparedness is less than satisfactory. 30% found this to be satisfactory. 34% of the respondent in Moshi found this to be more than satisfactory.

KISUMU

The ranking results show that 36% of respondents in Kisumu town stated they did not have disaster preparedness plans and early warning systems in

place, therefore allocating the lowest rank. 45% of the respondents stated that that there was some level of preparedness but it was less than satisfactory. 9% found this to be satisfactory while another 9% of the respondent in Kisumu found this to be more than satisfactory.

10. Recovery and Rebuilding Communities

After any disaster, ensure that the needs of the survivors are placed at the centre of reconstruction, with their support in the design and implementation of the recovery and response, including rebuilding homes and livelihoods

NAROK

The ranking results show that 67% of respondents in Narok town stated they did not carry out disaster recovery activities re-building community livelihood, therefore allocating the lowest rank. 18% of the respondents stated that that the activities carried out in Narok for recovery are more than satisfactory, 6% found this to be less than satisfactory while another 6% of the respondent in found this to be satisfactory. 3% of the respondents found this to be more than satisfactory.

MOSHI

The ranking results show that 6% of respondents in Moshi town stated they did not carry out disaster recovery activities re-building community livelihood, therefore allocating the lowest rank. 30% of the respondents stated that that the activities carried out in Moshi town for recovery are less than satisfactory, 40% found this to be satisfactory while another 21% of the respondent in Moshi found this to be more than satisfactory. 3% of the respondents perceived this to be exemplary and allocated the highest rank.

KISUMU

The ranking results show that 27% of respondents in Kisumu town stated they did not carry out disaster recovery activities re-building community livelihood while another 27% of the respondents stated that that the activities carried out in Kisumu for recovery are satisfactory, 36% found this to be less than satisfactory while another 9% of the respondent in found this to be more than satisfactory.

6. QUALITATIVE ANALYSIS RESULTS

Outlined below is a summary of the qualitative analysis from all of the pilot city workshops, participant DRR SWOT Analysis and field visits according to each Essential. See Appendix 6 for city SWOT analyses.

Essential 1. Institutional and administrative frameworks

"We scramble to respond let alone plan for prevention" Emergency Service Worker, Kisumu

In all three pilot city local governments, there is no specific DDR strategic plan or departmental plans that specifically address DDR. There are no clear links between any DRR work undertaken at the National level in Kenya and Tanzania and local government. Only Narok participants' perception rank reflected the absence of formal DRR frameworks. Both Kisumu and Moshi participants tended to over-estimate their institutional framework capacity.

In Tanzania, the National government of Tanzania have a policy on disaster. Any action and plans to do with disaster emanate from the Prime Minister's office and link to a Regional Council who 'implements it'. Local government are sometimes involved but not necessarily. If there is a 'disaster' in the city of Moshi, for example, and Council need support and material assistance, they are expected to provide a report to the regional office which is then sent to the National government. Council then wait for a reply. There is a feeling that responses from the National government aren't necessarily clear in the way they are undertaken. Any response is felt to be a 'favour' to specific communities rather than a right for all.

In Kenya, we have the National Disaster Operations Centre (NDOC) which has the official mandate to coordinate all disaster response; it works hand in hand with the Kenya Red Cross Society (KRCS), who play a leading role auxiliary to the Government. The Ministry of state for Special Programmes has the overall official mandate to coordinate disaster risk reduction issues at National level up to county level. There also exists the Crisis Response Centre under the Prime Minister's office which coordinates

issues regarding relief and to an extent disaster risk reduction; finally there is the National Drought Management Authority (NDMA) which coordinate drought response. There are various arms of government involved in disaster management but there appears to be limited coordination down to the county or community level. In addition there is a lack of clear prioritisation on investment in disaster risk reduction instead of contingency planning for relief interventions.

Across all regions of Kenya including Kisumu and Narok cities, there is a District Commissioner's office from which any formal DDR activities and disaster responses are formally coordinated. Efforts by the DC's office are considered very limited in response (as they are often slow to respond and are limited by funds) and virtually no DRR activities are undertaken. There are district disaster management committees (DDMC) chaired by the District Commissioners office, but they only meet when there is an imminent threat or when a disaster occurs. The Regional authorities are thus viewed as a 'reactive' rather than 'proactive' authority. At Narok for example, the local government staff felt that they had very limited contact with the DC's office, even during crisis periods. It is understood that this District Committee holds training for example, but Council have not been asked or sought to participate in any such activity.

Despite the lack of a formal framework, 2 Councils (Kisumu and Moshi) are undertaking a number of activities and programs that relate to DRR. In Kisumu, Council have a number of small pilot informal settlement upgrading programs in communities living in flood prone areas. The Council have secured donor partners to build specific evacuation centres next to schools and including water collection tanks and flood resistant bore holes to serve the wider community. Currently, 3 schools have been facilitated to provide an evacuation centre in Ofunya village through a JICA project. There are additional 3 more evacuation centres to be built in other schools however; they are inadequate considering they have to serve 24 villages around Nyalendo area. Each evacuation school can only cater to 300 people which is less than the rapidly expanding population.

In Kisumu where there were other organisations doing response related work, some other local

organisations such as the Fire Brigade and St John's Ambulance do having formal standing orders in relation to responding to a disaster event. These emergency service organisations do try and provide training and awareness raising in the local community but often their funding is ad hoc and affects their capacity for strategic planning. Where possible, these types of organisations try to establish links with other key groups like the Red Cross and World Vision but given there is no specific city wide forum on DRR and as a result, these organisations feel that it is often hard to find time to know what is happening in the City in relation to disaster.

In Moshi Tanzania, Council do have a 'response plan' in the health department that deals with water-borne diseases. Council also have a formal program in place to put fire hydrants in facilities around the city (though the roll out of this is somewhat limited by funding). The agricultural department also has a program in place that encourages people to store food, crop produce if possible, for utilisation during drought periods (though storage facilities rely on individual efforts). Some informal settlement upgrading is occurring as part of a National program but it is limited to specific areas.

Formal partnerships and links between local agencies and local government were also described as 'limited' across all three pilot cities. All workshop (government and non-government) participants described limitations and barriers to effective communication and coordination across disaster related organisations. If there are disasters in each of these cities (usually flood events), local government rely on external organisations like the Red Cross for immediate support. Kisumu is the best supported city as the Red Cross have a major operation in Kisumu city.

Narok government participants said that while there were NGO's in Narok city, most worked on projects with the rural Maasai community. There was no or limited focus on urban issues. NGO's such as APHIA USAid did some health related urban projects and small

Narok River Tributaryconnections with local government. Moshi Council said that there were no large NGO's operating in Moshi. They were located in the nearby town of Arusha or in the capital city

Dar Es Salaam. It was clear that Kisumu had a significant range of international, national and local NGO's but many were also perceived to focus their efforts on the rural communities. Compared to the other two cities, however, it is clear that Kisumu has a broader range and depth of NGO presence and activity than Narok or Moshi.

There are no clear private sector partnerships around DRR although some private businesses were involved in Moshi's tree planting program for example.

All Pilot Councils were clear that a formal plan would assist in both prevention efforts and partnership and coordination efforts.

Essential 2. Financing and Resources

"Even main stream departments within Council don't really get much money so you can imagine that there is very little left over for disaster prevention work" Council Staff Member, Kisumu.

There is no specific disaster prevention budget in any of the three pilot cities (both in local government and the NGO's – with the exception of Action Aid in Kisumu who had just allocated some money for DRR in their annual project work plan for 2012 - 2013. The perception ranks were more consistent across all city participants in reflecting the lack of budget specifically committed to DRR programs and activities (though some participants still overestimated their Council's capacity).

Across all three councils, there are small amounts of money however, set aside in specific departments that relate to disaster prevention while not explicitly identified as such.

For example, the Moshi Council health department have a small amount of funding which they use to respond to any water born disease outbreaks. Council have a specific budget line in relation to clearing the city's drains on a regular basis (done before the rainy seasons). Council also have a budget to support its by-laws to keep the city as clean as possible. The city employs locals to patrol the streets. They then issue fines for littering which area paid to Council. These workers receive a substantial 'cut' of the fine which acts as an incentive for enforcement. Council also support a substantial tree planting Campaign. They also

support locals to grow the seedlings for the tree planting efforts. The tree planting effort is also supported at a National level by the Tanzanian President. (The Council also try to provide small non-monetary incentives like certificates of recognition for those who participate).

Finally, Moshi Council have a small informal settlement upgrading program. They are trying to improve roads and drainage systems and provide waste management options. Council are partnering with National Government on this project.

In Narok City Council, there was a clear impression that Council are struggling to meet their basic obligations and address essential urban infrastructure. Even after a flood event, Council said they were unable to raise the funds to hire a digger to clear away the silt and rubbish (despite experiencing several severe floods a year, the city do not have their own heavy machinery and have to hire it each time at commercial rates).

Activities undertaken to enhance infrastructure in Narok town are often done by individuals in regard to their own property or business. A local business lady with two large buildings right beside one of the main flood drains was so affected by the flood that she was building a gabion in the river beside her premises, funded from her own pocket. It was not clear that she had communicated with Council on the nature of the work she was undertaking. The shop owner indicated that she had approached Council on numerous occasions about fortifying the walls and the building where the stream flows but they had not responded. She considers that what she is doing is Council's responsibility but given the impending April rains (2012), she felt compelled to undertake her own action on the section of the stream near her shops.

In Kisumu, Council have partnered with external donors (usually international bodies) to undertake specific infrastructure projects in high risk flood prone areas of the informal settlements as a mean of supplementing their budget and getting work done. If there is a flood, there might be a small amount for money that comes from the District Commissioner's office but it often comes late and is not enough for substantial impact, let alone for prevention measures.

No Council had any specific plans to encourage business development or different types of business. No Chamber of Commerce or other private sector organisations or business are engaged in DRR work.

No Council has any program or apparent financial capacity to offer financial incentives for DRR related activities.

Only Moshi Council indicated that they celebrate some DRR related days (world environment day for example).

Essential 3. Multi-Hazard Risk Assessment – Know Your Risk

"There is no section in Council to collect or process that type of data" Council staff, Kisumu

None of the participating pilot Councils have any specific formal data or information on disaster risks, rainfall, flood occurrences etc. There are no official data bases and in fact, very little overall Council records are computerised and only a few staff have computer or internet access. All Council participants were not aware of anyone else in their city that might be collecting such DRR information. Some individual departments in Councils do collect some DRR related information. For example, the Moshi Health Department had incidence levels of water borne diseases but these were paper based reports. The University of Maseno in Kisumu has data analysis and GIS mapping capacity but have no programs or links with other agencies (including Council) to undertake data analysis work.

The perception ranking for this essential did not support the qualitative data. In the case of Moshi, 76% of workshop participants felt that they had very good or a more than satisfactory to DRR data management, despite the fact that there was only evidence of paper based health data.

At a national level in both Tanzania and Kenya, the Meteorological department collects some weather pattern information however; it is not clear how this information is communicated to the Council in any particular manner nor do councils request to see the information.

All Council's felt that the District Disaster Management Committee should have some information on disaster but this was not the case reflecting the limited links and information sharing between Councils and the Regional Committees.

Despite the lack of formal data and information, there is a lot of informal local and indigenous knowledge in regard to disasters and prevention within Council and the community of all three cities. For example, in Narok, it is well known that the rainy season is around April and December each year. If there is rain around or up in the local hills, then in an hour and a half, the flood is likely to hit the township of Narok. The local businesses in the CBD where the main flood always hits, know to lock up their shops, barricade them with iron sheets or sand bags and leave to higher ground. Some knowledge is also known about droughts but there is no formal information or data.

There is no information available to inform planning or policy development.

Essential 4. Infrastructure Protection, Upgrading and Resilience

All local government participants felt that they had very limited budget and thus capacity to address the basic urban infrastructure needs of their cities including housing, drains, roads, culverts, that in flood affected cities, are important to help mitigate their impact. Infrastructure upgrading and resilience activities in relation to DRR were therefore non-existent or very limited (some in Moshi and some in Kisumu).

Most Council's land use planning frameworks appear to be having minimal affect in assisting Councils resolve their infrastructure issues or prevent the rapid expansion of informal settlements.

The perception ranks reflect the slightly better infrastructure developments being undertaken in Moshi and Kisumu. Participants from these cities were more likely to rank their city's capacity for this essential as satisfactory in contract to Narok participants who ranked their investment as 'minor'.

In the case of Narok, the city is not at all active in cleaning or developing key infrastructure such as drains. There is currently no formal waste management program in Narok. Despite discouraging local residents from doing so, city waste is often poured at night into local drains that run through the CBD. During a flood event,

sewerage and garbage block drains and remain in the city silt left by the river. Settlements downstream are affected through a dramatic reduction in water quality (see Front cover picture and Figure 1 Images of Narok).

It is also clear in Narok that if the drains and sewerage issues could be addressed, this would also have a significant impact on the city's capacity to mitigate the impact of the flash flooding and improve post flood water quality. Narok did receive a one-off grant from the National government to build a bridge in the CBD but it was washed away during the last floods (December 2011). During this last flood, the Prime Minister's office (which undertakes actions on disaster prevention), was lobbied and gave some funds that enabled the Council to hire machinery to clean up the city (the city was flooded 3 times in December 2011). Council want city businesses to relocate to higher areas of the town but they have no incentives to offer business to do so. Kenya Roads Board apparently used to do some work in Narok in relation to the roads and drains, culverts but the structure of the Roads Board (now the Roads Management Authority) has changed (Narok now under the rural Roads and the budget for maintenance has decreased). There is a Regional River Development Authority called the Ewaso Ng`iro South Development Authority (ENDSA) who are doing some work on river degradation).

Like Narok, Moshi are aware of maintaining and upgrading infrastructure and have some programs as per individual departments. Moshi drains are in general, clean but in a flood scenario, they are often not big enough to cope with the rate and extent of the river runoff (see Figure 3, Images of Moshi).

Council participants from all three cities also highlighted the issue of urban development, informal settlement expansion and meeting basic infrastructure needs. Most households affected by floods in Kisumu and Moshi for example, are low income households who, for a whole range of reasons, often end up living in flood prone areas where there is no or minimal infrastructure. People have made their lives in these places and are very reluctant to move. In Moshi for example, land is very expensive and limited and it is both poor and middle income earners who are developing land on flood prone areas. If people have some sort of land and housing, they do not want to move.

Kisumu Council participants also pointed out that infrastructure development in some informal settlements can be very difficult. In some areas, there is a general distrust of government and like Moshi, a real reluctance to move from any ancestral land. Furthermore, few individuals would want to give up part of 'their land' for public roads or drain development. Council are also limited in what incentives they can provide to encourage that relocation. Informal settlement dwellers are quite adamant however, that it's Council's responsibility to assist them despite the fact that many settlements are on the edge of the city. Residents there consider that the 'city has moved to us' rather than they have expanded the geographical reach of the city.

Despite the growing informal settlements in Kisumu, there are some effective infrastructure development programs being undertaken. Kisumu is being supported by the National Kenya Slum Upgrading program. Some CDF (Constituency Development Funds) and LATIF (Local Area Transfer Implementing Funds) funds have been used to develop a large drain in 'Nyalendo' informal settlement located in Kisumu. Council have partnered with the Japan International Cooperation Agency (JICA) to build evacuation centres next to schools in high risk flood areas. Flood resistant bore holes are also built and each evacuation centre has a water tank to catch rain run-off from the evacuation centre. Hazard signs have been erected as well as clear signs directing the community to each of the evacuation centres. Three such centres have been built within the city and 3 more are planned. Within these high risk areas, Council have also built specific drainage dykes, bridges and culverts to assist the community in evacuating when a flood event occurs. A storm water plan is currently being developed by the Engineering Department (see Figure 2, Images of Kisumu).

Moshi Council participants said that waste management and drainage is a problem as the city continues to grow. Informal settlements for example, use mostly pit latrines and it's hard for Council to assist in the waste management of these given access issues. It should be upgraded but council lack funds for such a major work. Council work with the Moshi Urban Water and

Sanitation Facility and the Municipal Director is on the board but both organisations struggle with the resources to make significant changes. The local community is encouraged, however, to take responsibility for the drains in front of their house and to understand that 'council can't do everything'. The first Saturday of every month, residents are asked to participate in drain cleaning. No other city reported such active community participation on this issue.

Essential 5. Protect Vital Facilities: education, health centers, food and water supplies?

In all three pilot cities, vital facilities such as schools and hospitals are not dramatically affected by natural disasters. Some schools in Kisumu are directly affected by floods and Council have an active partnership with the Japanese International Corporation to build evacuation centres adjacent to local schools, undertake training within the schools and awareness raising in the local communities.

In the case of Kisumu, the perception ranks reflect the different cities vulnerabilities in terms of facilities at risk but not the actions that they appeared to be taking. In this city, there are schools at risk and more than 63% said that protection efforts were less than satisfactory despite the Council's efforts to secure partnerships, funding and having built 3 evacuation centres. Reflecting the fact that most of Moshi's schools and health facilities are not dramatically affected by flood, 42% said that they were satisfactorily protected and 24% said protection was good. Narok only has 1 school that was in the flood path but participants still ranked Council's protection efforts as low (61% said less than satisfactory or minor).

The capacity of local hospitals in all three cities to cope with a sudden influx of sick patients is, however, more precarious. In all three cities, hospital capacity is limited and public emergency facilities in poor condition (ambulances) and training minimal. There are no blood stocks in Narok for example. Private hospitals are better equipped with ALS certified ambulances that can cater for any form of Trauma as it has ICU defibrillators, Suction pumps, emergency drugs and much more. It was stated in various cities that their ambulance only had a stretcher or an oxygen tank.

There are no stockpiles of food and water or sleeping supplies in most of the pilot cities though some of the school evaluation centres were said to have a few basic supplies. The Red Cross Kisumu is planning to build a substantial emergency response centre near the new International Airport.

There is very limited awareness raising and drills undertaken in these facilities. Only in the three evacuation centres in Kisumu was there any formal professional training being undertaken for school children.

In all three cities, essential items like food and water are impacted in particular areas mostly during a flood event though drought also limits food supply and increases prices. It is mostly those in informal settlements who are affected.

In Narok, individual businesses who sell food in town (small vegetable stands etc. and small supermarkets) might experience impact from the flood waters so the supply in the CBD might be somewhat interrupted. But as a whole, the town is not affected by major food or water shortages (though water quality might be affected). In Narok, those living downstream, mainly in formal and informal settlements, who find that their water quality after a flood event is very poor. The immediate population downstream (i.e. nearest Narok town) amounts to around 20,000 and these people often use the river/stream water for domestic purposes. In the days following the flood, the water quality is affected by the rubbish and sewerage that is washed downstream. There is no official information on water quality during these times and the hospital do not experience additional cases of water borne diseases but it is known that the water quality deteriorates during this time.

Water supplies are affected in the flood prone areas of Kisumu. Water quality is compromised by waste and rubbish. While Council make efforts to chlorinate the water, it does not reach all informal city residents. Only a few communities have flood protected bore holes. Water storage facilities are limited and individual households do not have money for storing fresh water so there is a culture of getting water every day. In a flood event, this often means using contaminated water. Food is also an issue for flood affected communities as most have to evacuate from their homes and

rely on donations. Sometimes the food donations received however are not appropriate. Maize for example, is not useful when many affected by flood can't have the facilities or water to cook it properly.

In all three pilot cities, food supplies are affected mostly during a drought event. Fresh fruit and vegetables become limited and expensive.

Essential 6. Building Regulations and Land Use Planning

All three pilot Councils have codes and regulations in place as per the National level planning codes. All Councils have some sort of land use planning documents and guides. In both cases (regulations and land use planning), it is clear that all struggle to enforce the codes and planning regulations. This is due to limited personnel to enforce the codes and there appear to be issues of transparency in terms of enforcing the codes.

The perception ranks were not consistent with the qualitative information and field site visits. For example, in Narok, while 64% of respondents said that Narok's enforcement and land use planning was below satisfactory, 41% said it was satisfactory or above. Similarly, Kisumu respondents perceived that Council's efforts were satisfactory (45%) which is in contrast to evidence on the ground. Moshi's perception ranks suggested some confusion in that over a third (37%) of participants said they didn't know and a third said it was satisfactory.

For example, in Narok, there are 10 Council staff to enforce all codes. Visits to Narok's CBD revealed that building was still continuing adjacent to the two streams and in the direct path of the floods. The Narok Council also appears to struggles to physically reshape and redefine the city according to improve land use planning. Council would like to encourage people to move from the CBD but lack the capacity both in terms of will and knowledge and also financial capacity to offer things like incentives or compensation. As previously mentioned, there is also little planning coordination between local, regional and National planning bodies (both generally and specifically in relation to disaster prevention planning). (see Building Construction picture, Figure 1, Images of Narok).

Moshi have some success in enforcing waste and rubbish in the city and thus many city drains are relatively clean. This has led to an improved culture of cleanliness in the CBD of Moshi. Like Kisumu, however, they struggle to enforce land use plans.

Kisumu try to enforce but it was emergency services representatives highlighted the poor adherence of the city's buildings to fire codes for example and how many fire escape corridors were occupied by small kiosks that would have had to get a permit from Council as well as pay monthly tax to Council.

Essential 7. Training, Education and Public Awareness

"Poverty is a terrible thing as it desensitises people …. People have been brutalised and this stops them from listening and the Government is sometimes seen as the enemy" Emergency Services Worker, Kisumu

There is no formal DRR training, public awareness training or education activities undertaken in all three pilot cities with the exception of Kisumu where school children and local communities adjacent to the purpose built evacuation centres are located. The perception ranking from Narok reflected the qualitative data and most respondents (85%) said that Narok did very little in terms of awareness raising. Moshi and Kisumu were mixed between those respondents that felt some efforts were being made (satisfactory) and those that felt the efforts were not up to par.

All Council's and their local communities tend to rely on their own informal networks to 'know' about an imminent disaster event. Local networks and indigenous knowledge form the basis of any prevention response (and usually only in the face of an imminent disaster event).

For example, in Narok, one local shop owner described how she had 'friends' up in the Valley who would call her if it had been raining and she would then know that in about an hour and a half's time, a flood would hit Narok. She also spoke of the important role motorbike Taxis and other public transport vehicles played as well as informal networks to inform town residents of any flood threat. The Regional Authority ENDSA in Narok, is undertaking some awareness raising about

the importance of trees via its school and local community replanting program. Narok city Council have a website but it is not actively managed and updated and there is nothing about disaster prevention there.

In Moshi, if a disaster is imminent, Council will mobilise local resources such as sending cars around the relevant neighbourhoods with a loud speaker to inform residents of an issue. Council has close links with local radio stations and they are willing to transmit messages. Some schools offer training to students on issues relating to specific disasters such as fire. There are also ward officers who help with information flows as are the Council extension officers.

Only one NGO workshop participant in Kisumu undertook some community awareness raising about first aid. St John's Ambulance have a local competition (which goes onto the regional and national levels) where school children compete in a First Aid competition. Other first aid training is undertaken in schools or communities depending on ad hoc funding. Some school children were trained on what to do in a flood event as part of the overall awareness raising occurring in the schools adjacent to the evacuation centres. Children were given a booklet to have and encouraged to circulate it at home (see Report front cover).

As quoted above, one emergency services worker in Kisumu raised the complex issues faced by Council and NGO's in raising awareness in poorer communities who might be less open or willing to participate and distrustful of an organisations intentions.

Essential 8. Environmental Protection and Strengthening of Ecosystems

"People want to restore the old times of Moshi" (and therefore want to do things to tackle climate change) — Council Staff Member, Moshi, Tanzania

All three pilot cities are undertaking small environmental projects but not specifically as part of a DRR activity or strategy. The perception rankings were somewhat consistent with the qualitative results (very hard to quantify from the pilot study exactly how effective Moshi and Kisumu's tree planting efforts were for example). Narok respondents tended to feel that there was

less than satisfactory efforts being made (61%). Moshi respondents tended to give the Council's efforts a more positive rank (82%) and Kisumu respondents were mixed with some saying they were less than satisfactory (27%) and 46% saying that they were satisfactory or above.

As mentioned above, some efforts are being undertaken in Narok to plant trees but the program is small and its effectiveness limited. The Regional body ENDSA undertake awareness and planting activities in local rural schools as well as with organisations like churches. The programs educational impact is hard to verify and growing of trees is haphazard in that the seedlings are only cared for during school term (and even then the approach is sometimes hit and miss). During the holiday periods, the trees are not cared for and often die. Pastoralists also bring their cattle into the school grounds during holiday times and they often eat the seedlings.

Narok city would like to make more use of the Town's natural hills in the city to reduce the impact on residents and businesses in the CBD but they have limited capacity to encourage people to move. There are no other natural structures that can assist them in curbing the extent and ferocity of the floods, especially given that natural elements like tress continue to be cut down in the rural areas due to charcoal production and poor farming practices (Maasai lease land out for farming and most trees then cut down). Any interventions must in the short term are seen as having to be man-made (such as improved drains etc., dams and reforestation programs).

Moshi Council seem very aware of the natural links between DRR, climate change and environmental programs. The general public are said to feel that climate change has altered Moshi making the town drier and hotter. The national government have some policies that help to protect the environment. For example, the use of chain saws is barred in Tanzania to reduce the rapid loss of trees. Some tree planting is undertaken by Council with the community and supporting partners (though there are problems with post planting care). Council have a formal by law that says that local residents must plant 8 trees annually. Community seem very keen to take part in tree planning exercises. There are no other specific tasks being undertaken to protect natural buffers for example, in Moshi in the

flood prone areas. Council are aware that the town is affected by what is happening in the regional hinterland (cutting down of trees in particular) and efforts are made to work with other regional authorities but limited actions and activities are limited.

In Kisumu, there are a few environmental activities being undertaken, some by Council and others by NGO's mainly in relation to conserving Lake Victoria. The department of the Environment in Council and the department of education have a joint tree planning project in some local schools. Children and local communities are also encouraged to plant trees around their homes. There is some collaboration with the Local Lake Victoria Regional Authority on improving the Lake Environment.

Essential 9. Effective Preparedness, Early Warning and Response

"You can't have a drill if you don't have a plan and if you don't have a plan you can't prepare nor evaluate where you are and how you did" Local Project worker, Kisumu

Preparedness or early warning systems are not in place in any of the three pilot cities. While all participants agreed on the purpose and usefulness of such plans, no local governments had any form of an early warning system and very few organisations had a plan with the exception of the Emergency services and Red Cross. Even though in both Kenya and Tanzania the regional authority has the disaster mandate, they have no plan in place for early warning. The perception ranks for Narok and Kisumu seemed more consistent with the qualitative information with both 70% and 81% or respondents respectively saying that they had no plans in place. Moshi respondents tended to over-estimate their preparedness with 64% ranking their preparedness planning at above satisfactory.

In most cases, local communities, NGO's and other organisations have their own informal and semi-formal ways of alerting one another.

In Narok, as mentioned earlier, any warning system is informal and individuals have their own systems of information in regard to a flood as mentioned earlier. This informal system appears to 'work' in daylight hours but should a flood event happen when it is dark, residents in town are often caught

off guard as it can be harder to predict when the flood will hit and the activity of the informal networks is more limited.

Within the local communities of Kisumu, there are informal networks and local knowledge which assists some. In those areas located near the evacuation centres for example, the local community committee is active in mobilising residents if a disaster strikes or is about to.

All consultation participants across all three cities agreed that an overall strategic DRR plan with a specific section on early warning would help coordinate activities and responses.

Essential 10. Recovery and Rebuilding Communities

There are no formal recovery plans adopted by the city Council in all three pilot cities. The recovery and rebuilding process is ad-hoc. The perception ranks were mixed. Narok ranking was the most consistent with 73% of respondents saying that they felt the response was less than satisfactory. Moshi responses were mixed (36% saying less than satisfactory and 61% saying more than satisfactory), perhaps reflecting Council's good will to respond. Kisumu was also mixed with 64% of respondents saying less than satisfactory and 36% saying more than satisfactory.

After a flood, all pilot city Council participants said that they lobby for funds from the relevant regional and national authorities (often to undertake basic urban cleaning up tasks such as clearing away the waste and silt). Local non-government organisations tend to respond to areas of most need but the response is not necessarily well coordinated with other organisations or government authorities.

In most cases, the local community are thus largely left to their own devices in terms of cleaning up after the mess. In Narok, there is little assistance coming from anywhere despite the presence of NGO's in the town. There was one youth group organised by World Vision and another NGO which came one weekend to help with the last flood in December.

In Moshi, the process of receiving help from the National Government is considered lengthy and

slow. Some sort of assessment process has to be undertaken and then sent in a report to the National Government who then assess the 'needs'. Actual help can therefore take time to reach the needy and often if help comes (such as food aid), it is often limited. In serious cases, the security forces in Tanzania are considered very effective and helpful as are the local police. This was not always the case but has improved in recent years.

In Kisumu, there is no clear recovery plan. Like Narok, the community are largely left to their own devices, particularly in terms of rebuilding their homes (which they often do in the same place using the same building materials).

Table 1 below provides a comparative summary of each city's capacity and readiness in relation to each of the Ten Essentials.

TABLE 1

COMPARITIVE SUMMARY TABLE OF TEN ESSENTIALS FOR EACH PILOT CITY

Essentials	Questions	Narok	Kisumu	Moshi
1.	1. Institutional frameworks and formal mandate	No DRR Strategic plans. Limited work being undertaken as per work plans. Limited inter-governmental disaster related links. Regional committee (ad hoc). No Regional Plan. National DRR Plan still being developed. National Policy in DRAFT phase.	No DRR Strategic plans Some work being undertaken in individual departments as per annual work plans. Limited inter-governmental disaster related links. Regional committee (ad hoc). No Regional Plan. National DRR Plan still being developed. National Policy in DRAFT phase.	No DRR Strategic plans Some work being undertaken in individual departments as per annual work plans. Limited inter-governmental disaster related links. No regional or national DRR strategy. National DRR Policy in place.
	2. Diversity/range and presence of local alliances	No clear formal DRR alliances. Limited formal 'response' related alliances (ad hoc). Most NGO's working with Maasai rural communities	Range of organisations undertaking 'response/reaction' related work but uncoordinated. Limited specific DRR focussed work and alliances	Some organisations undertaking response/ reaction related work. Limited coordination and very limited specific DRR alliances. No International NGO's based in Moshi. Mainly CBO's.
	3. The Effectiveness of those local alliances (co-ordination)	No coordination and little urban focus	Limited coordination. Reaction orientated.	Limited coordination. Reaction orientated.
2.	1. The money available for disaster prevention?	No DRR budget and extremely limited response budget	No DRR budget and very limited response budget	No DRR budget and very limited response budget
	2. Incentives for disaster prevention activities?	None	None	None
	3. Economic planning to reduce impact of disaster on business/ build business diversity?	None	None	None
3.	1. Level of data and information on disasters, risks?	None	Limited and uncoordinated. Most data paper based.	Limited and uncoordinated. Most data paper based.
	2. Way data used to inform Council plans/activities?	None	None	None (health related data used)
	3. The way the information is made available to the general public?	None	None	None
4.	1. Investment and maintenance of the city's risk infrastructure	None	Trying where possible but very limited. Some work done in partnership with International donors and National Gov.	Trying where possible but very limited (reliant on National budget). No other external partners involved.
	2. Inclusion of climate change issues in infrastructure planning?	Very limited	Recognition but limited links between CC and DRR.	Recognition but limited links between CC and DRR.

5.	1. Safety/capacity of schools infrastructure to withstand disaster?	Most schools safe 1 school vulnerable but informally, staff and students 'know what to do'.	6 schools in flood zone. 3 with evacuation centre.	No schools directly affected.
	2. Safety/capacity of health facilities?	Hospitals safe but no capacity to respond to disasters.	Hospitals safe but limited capacity to respond to disasters.	Hospitals safe but limited capacity to respond to disasters.
	3. Safety/capacity of local food suppliers to withstand disaster?	Food affected by floods but only for short times until flood water recedes. Drought affects food supplies and cost increases.	Food supplies affected by drought. Fresh fruit and vegetables can be very limited and costly. Food in flood prone areas becomes limited.	Food supplies affected by drought. Fresh fruit and vegetables can be very limited and costly.
	4. Safety/capacity of water suppliers/supplies to withstand disaster?	CBD water ok during flood. Water quality for downstream settlements very affected during and after a flood event. Drought affects water supplies.	For many communities, local water supplies greatly affected during flood. Drought also affects water supplies.	Water supplies not greatly affected during floods but affected during a drought.
	5. Improvement or upgrading plans?	No upgrading plans. No upgrading of hospitals planned.	Some upgrading plans in informal settlements. Attempts to improve chlorination of water. No upgrading of hospitals planned.	Some upgrading plans in informal settlements. No upgrading of hospitals planned.
6.	1. Application and enforcement of building codes and regulations in the city?	National building codes used. Very limited enforcement.	National building codes used but limited and inconsistent enforcement.	National building codes in place. Some success in enforcing a range of codes both building and others.
	2. Application and enforcement of land use planning in the city?	No land use plan. Very limited planning.	Overall strategic plans in place but enforcement inconsistent	Land use plan in place. Some success in enforcing a range of codes both building and others
	3. Programs and activities to address needs of vulnerable groups (especially housing)?	None	Some. Informal settlement upgrading, partnerships with external donors and National government to build evacuation centres and undertake training	Some informal settlement upgrading being undertaken through National Program.
7.	1. Education and training programs on DRR in place for general public.	None	Some being undertaken in communities as part of evacuation centres but very limited to those communities.	Very limited. Some informal discussions happening through Ward Councillors and via local meetings (Mutars) but ad hoc and limited.
	2. In schools?	Very Limited	Some activities undertaken in communities where evacuation centres built (drills and flood training, booklet with information for kids). Emergency services undertaken some training on specific issues	Very Limited.
	3. Awareness days for local community?	None	None	None

8.	1. Activities to protect ecosystems and natural buffers.	Very limited to tree planting and small scale project with low success rate.	Limited. Some tree planting activities. Lake Victoria authority and some NGO's doing work on conserving Lake Victoria	Active Tree planting Campaign
	2. Formal plans/mandates in place for environment protection related to risk prevention.	None and only starting to think through links to DRR.	No clear link to DRR but understanding of connection. Some plans in Department of the Environment. Other authorities and NGO's doing some work.	No clear link to DRR but understanding of connection. Some plans in Department of the Environment. Other authorities and NGO's doing some work
	3. Depth and breadth of groups and organisations undertaking this work.	Limited	Some but uncoordinated.	Some but uncoordinated.
9.	1. Preparedness plans (early warning systems and emergency management) by Council?	None	None	None
	2. Formal networks and links amongst relevant stakeholders?	None. Divide between sectors, rural and urban on all issues despite connections.	Very limited. Reactive and disaster event based. Divide between sectors, rural and urban on all issues despite connections.	Very limited. Reactive and disaster event based. Divide between sectors, rural and urban on all issues despite connections.
	3. General community preparedness?	No formal plans. Community and individually initiated (informal activities and actions)	No formal plans. Community and individually initiated. Some formal training in areas where evacuation centres located	No formal plans. Community and individually initiated (informal activities and actions
10.	1. Needs of those affected given priority.	No and Limited timely support from government.	Attempts made. Communities where evacuation centres located better resourced. Reliant on external support from NGO's. Limited timely support from government.	Attempts made but limited capacity. Rely on external support (CBO's and sometimes NGO's). Limited timely support from government.
	2. Partnerships in place	None	There are a range of NGO's and organisations but uncoordinated and reactive efforts	There are some local organisations. International organisations limited. Efforts uncoordinated and reactive.
	3. Homes and livelihoods rebuilt	No. Community left to rebuild on its own. Dependant on individual efforts	Limited. Some attempts made. Range of NGO's involved but limited	Limited. Some attempts made but limited

7. KEY OUTCOMES

REFLECTIONS ON THE CONSULTATION PROCESS

The following key outcomes emerged from the pilot in regard to the process of assessing city resilience according to the Ten Essentials.

The consultation process for this pilot was seen as very beneficial for both local governments and external city wide stakeholders.

The ranking process was somewhat difficult for participants and information/assessment value for UNISDR might be limited at this stage given there is almost no DRR work being undertaken. The ranking system maybe a new skill for some and is thus not always understood. Participants also tended to over-estimate their city's actions and activities in both an attempt to appear pro-active but also perhaps from limited comparative knowledge on what other cities are doing with regard to DRR.

The capacity to engage in a detailed discussion on DRR activities as per the Ten Essentials, was sometimes difficult. The Ten Essentials is quite a detailed list covering many items and themes. There was a sense that some Staff felt uncertain about the concepts used, having not really discussed them before, particularly in relation to their own work. It was also felt that a prior capacity building session would have assisted these staff members in feeling more comfortable and familiar with the 10 Essential's ideas and aspirations.

8. PILOT CITY RESILIENCE ASSESSMENTS

Outlined below is an overall assessment of each city's DRR 'resilience' based on the Ten Essentials framework and results analysis.

8.1 CITY RESILIENCE ANALYSIS – NAROK, KENYA – OVERALL COMMENT

The overall ranking perception from Narok suggests that the city has some DRR capacity, programs, data and plans in place. This was not, however, reflected in the workshops, the SWOT analysis or in the overall assessment of Narok's DRR capacity (i.e. assessments of workshops, meetings and field visits).

Rather, it appears that Narok Town has extremely limited resilience to natural disaster impacts and no formal DRR activities or plans. There are no clear and tangible measures in place to prevent or warn the community about disasters. There is a limited formal culture of prevention and safety within the main city governance structures. Narok Town is grappling with many basic urban vulnerability issues (basic infrastructure, developing city, social cohesion, governance culture) and these closely relate with the town's capacity to achieve some sort of city resilience. The overall ranking by Council staff as well as the professional assessment by UNISDR reflects the limited presence of formal frameworks, plans and activities.

There appears to be, however, a good level of broad informal community awareness on the reasons behind the flood events, how to predict and know when a flood event will occur and how to clean up afterwards. There is also a sense of community spirit around helping each other out after the flood event. There are strong informal networks that operate during the day to warn people of an impending flood event but nothing more formal.

Any prevention activities are undertaken by individuals and most clean-up operations are again a matter for individuals. The City Council does try to hire machinery to clean up dirt and silt but this depends on their capacity to obtain funds from the National Government. There are very limited links between the tiers of government in Narok. No action is being taken on climate change by local government though some NGO's are undertaking small scale projects. There are very limited governance networks as well as NGO or community networks.

8.2 CITY RESILIENCE ANALYSIS – KISUMU, KENYA – OVERALL COMMENT

The overall perception ranking results highlighted some of the successes achieved in Kisumu as well as the challenges facing the city and the work required to effectively address DRR. In the main, the ranking results in some cases consistent with the overall analysis of the city's DRR capacity but like the other city rankings, also suggested an over estimation of the cities' DRR capacity.

Kisumu has many of the 10 Essential fundamentals to build a strong DRR program and strengthen the city's Natural Disaster Resilience although the scale at which informal settlement expansion is occurring in flood prone areas appears to be very rapid and a significant urban planning challenge. While Kisumu city and City Council have no formal plans and coordinated efforts in place neither to respond to disaster nor to undertake coordinated and informed prevention related activities, Council are nevertheless very keen to develop an overall Strategic plan and to develop a city wide DRR network. There is a strong understanding reflected in the council participants, that Council understand the connections between climate change, environmental protection, basic urban infrastructure and DRR. Council suggest that funding and to a lesser extent, skills and knowledge are significant issues for them in terms of improving their DRR plans and activities. They also see that their capacity to obtain partners for other projects could be applied and used as a strategy to develop its DRR activities.

There are a substantial range of non-governmental organisations operating within Kisumu as well as some interesting urban development programs like the Millennium Cities program. There are eight Universities in Kisumu and some with clear capacity to assist in strengthening the city's Resilience via knowledge, planning and data management. There is limited coordination between these groups and response relies on goodwill and informal networks.

The city's disaster related organisations and council do, however, have experience and local informal knowledge of disaster issues and response efforts. There are informal links between disaster response related organisations and to some degree, the city Council.

Council, alongside specific international partners, are undertaking comparatively significant infrastructure upgrading programs in low income, high risk flood prone areas. Within these communities, awareness training has been undertaken including drills at local schools and local community disaster preparedness committee's put in place.

There was unanimous agreement from Council and external stakeholders who participated in the consultation process, that a strategic DRR plan would be a major and important first step in making DRR a main agenda for Council and the city. A strategic plan was considered fundamental to enable council to have the formal mandate to undertake specific DRR work and form more formal inter-departmental links on prevention approaches, capacities and activities. The formation of a city wide Disaster related network or committee that focussed solely on disaster prevention would also assist.

Council emphasised that they needed assistance with the development of a Strategic Plan and that they and the various partners were ready to move forward with such a plan.

8.3 City Resilience Analysis – Moshi, Tanzania – overall comment

The ranking results were overall, not always consistent with the overall city resilience analysis. In many instances, ranking participants tended to over-estimate the city's progress on DRR. For example, ranking participants in Moshi ranked their DRR data provision as a '4'. In reality, however, the only formal data Moshi appear to collect is health related data which exists on paper (i.e. no computer records) and is not directly analysed in a DRR framework. It is thus more likely to be perceived as a 1 or 2 at most.

The overall analysis suggests that Moshi do not appear to be threatened by natural disasters in the same way that Kisumu and Narok are. While there is no data available, the impact of a flood event appears less in this town. Furthermore, the rate of city growth while significant, is not like Kisumu. Their basic urban infrastructure also seems in better shape than Narok for example nor do poverty levels appear to be quite as high. Moshi therefore appear to have a better 'natural' resilience to natural disasters than both Kisumu and Narok. Despite this, Moshi, like Kisumu demonstrate a number of strengths across the 10 Essential framework that make it somewhat on the way to strengthening the city's resilience.

At the same time, the Council try hard to do a lot with the little they have. They have an active number of local Campaigns that run fairly successfully including the 'Keep Moshi City

Clean' Campaign. They also have a tree planning Campaign which the local community are actively engaged in. Council want assistance to develop a plan and guidance on key outcomes they could achieve.

Council are also able to see that they are undertaking some important DDR activities but didn't know that they were DDR activities. They want a plan to reflect their efforts. Council have active Councillors as well as staff who, in the main, are trained in their fields of expertise and have a genuine interest in DDR.

While essential funding is lacking and a long term issues, Council also see that coordination and partnerships could be key to improving their DDR capacity. They see clear gaps in regional and national coordination efforts as well as the opportunity to strengthen partnerships in the city to achieve tangible DRR outcomes. Moshi Council wants to have a disaster prevention plan. They see it as a mechanism to coordinate, account for and justify Council's specific actions in relation to DRR. They also see it as a way to undertake advocacy and boost potential funding sources.

9. CONCLUSION

This pilot study suggests that achieving 'resilience' according to the Ten Essentials framework requires significant strengthening in some African city context. The pilot study also makes clear that there are a range of inter-related issues that are greatly affecting some city's capacity for DRR action.

All cities are struggling to meet and address basic urban infrastructure issues. Most are also affected by rural-urban related issues as rural hinterland ecosystem destruction (mainly deforestation) is dramatically increasing the impact of natural disaster events affecting their cities. Rural-urban migration and city expansion via informal settlements on peri-urban boundaries is also a major urban issue for all cities resulting in infrastructure and service demands.

Issues of governance such as transparency, accountability, capacity and leadership are also significantly affecting these cities capacities for development and DRR action. In very practical ways, governance affects how local governments,

non-government organisations and even local communities operate and How funding is allocated, partnerships are formed and meaningful planning is undertaken.

Local capacity is another factor affecting cities DRR capacity. In many cities, staff skills and knowledge are growing but the process is slow as training and skill development limited because of funds and how priorities are set. Information technology is not yet a feature of local government operations. Most staff do not have computers on their desks and information management systems are virtually non-existent.

The combination of these issues then, has a profound influence on how DRR is understood, integrated into current thinking and how any DRR activities are undertaken. The pilot study makes clear that DRR is not part of city activity despite the fact that cities like Narok and Kisumu are greatly affected 3-4 times a year by a natural disaster event. At the same time, there is strong evidence of informal local and indigenous knowledge, informal networks and community spirit which provides a version of resilience that must be captured and utilised in DRR knowledge and capacity development.

The Ten Essentials framework might therefore be better adapted or refined to reflect the local context of these cities. Specifically, the Local HFA-Local Government Self Assessment Tool should be expanded to include a process of facilitation and engagement on the Ten Essentials framework so that knowledge and skill capacity is enhanced alongside any information that is gathered. Likewise, the ranking system might also benefit from being a facilitated process rather than a stand-alone Local HFA-Local Government Self Assessment Tool.

What is clear, however, is that the Ten Essentials provided an important structure that stimulated specific discussion and reflection on DRR amongst participants. Participants wanted to talk about DRR and how it related to their work, the City Council's and indeed, the city as a whole. It was clear that capacity – knowledge and understanding and networks - were strengthened through this process. Perhaps the most important outcome of the pilot is all participants desire to know more about DRR and develop tangible and

practical tools to assist them improve their cities' resilience. Key stakeholders want assistance with the development of strategic plans, assistance in developing key city wide partnerships around DRR that also include the private sector. All participants felt that UNISDR is the key partner to achieve DRR goals.

10. RECOMMENDATIONS FOR UNISDR AND CITY RESILIENCE CAMPAIGN

10.1 SUGGESTED BROAD ACTIONS FOR BUILDING CITY RESILIENCE IN EACH PILOT CITY

Based on the findings from the field work and the data analysis, outlined below are a series of suggestions as to how DRR city resilience might be enhanced in each of the pilot cities.

PROGRESSING TEN ESSENTIALS IN NAROK

What types of interventions might Narok need to progress the Ten Essentials?

- Capacity building workshop around DRR and the Resilient Cities Campaign (both staff and councillors)

- Build understanding of how DRR relates to broader urban planning strategic plans and interventions

- Allocate a budget for addressing basic urban infrastructure and link with DRR activities (especially waste management, roads and drain infrastructure)

- Develop a 'Keep Narok Clean' Campaign (adapt from Moshi)

- Develop an urban tree planting Campaign

- Develop and build local alliances and support for DRR initiatives

- Build partnerships with local business in CBD around DRR

- Collect local disaster related data and explore data base options

- Support and become involved in rural development and ecosystem preservation and conservation efforts

- Support the development of the following DRR outcomes:

- Overall Council DRR 5 year action plan

- Overall city wide level strategic plan on DRR (of which the Council DRR strategic plan has direct links)

- Development of a city-wide DRR partnership group/committee (for information sharing, plan development, DRR discussion and planning). Such a committee or group would be key to the development of the overall city wide strategic plan

PROGRESSING TEN ESSENTIALS IN KISUMU

- What types of interventions might Kisumu need to progress the Ten Essentials?

- Capacity building workshop around DRR and the Resilient Cities Campaign

- Understand how DRR relates to broader urban planning strategic plans and interventions

- Strengthen local alliances and support for DRR initiatives and build on current partners and donors on other programs to be part of Kisumu's DRR activities

- Collect local disaster related data and explore data base options

- Support the writing up of Best Practice DRR activities such as the Local Government - JICA partnership to build evacuation centres alongside schools in Kisumu's flood prone informal settlements

- Support the development of the following DRR outcomes:

  - Overall Council DRR 5 year action plan

  - Overall city wide level strategic plan on DRR (of which the Council DRR strategic plan has direct links)

  - Development of a city-wide DRR partnership group/committee (for information sharing, plan development, DRR discussion and planning). Such a committee or group would be key to the development of the overall city wide strategic plan

PROGRESSING TEN ESSENTIALS IN MOSHI

What types of interventions might Moshi need to progress with the Ten Essentials?

- Capacity building workshop around DRR and the Resilient Cities Campaign

- Understand how DRR relates to broader urban planning interventions

- Strengthen local alliances and support for DRR initiatives and with particular attention on how local business and CBO's might be involved

- Strengthen rural city links and ecosystem preservation and conservation efforts

- Collect a broader range of area specific disaster related data and explore data base options

- Support the writing up of Best Practice DRR activities such as the Moshi Local Government's Keep the City Clean Campaign and their Tree Planting Campaign.

- Support the development of the following DRR outcomes:

  - Overall Council DRR 5 year action plan

  - Overall city wide level strategic plan on DRR (of which the Council DRR strategic plan has direct links)

  - Development of a city-wide DRR partnership group/committee (for information sharing, plan development, DRR discussion and planning). Such a committee or group would be key to the development of the overall city wide strategic plan

10.2 SUGGESTED MODIFICATIONS TO THE 10 ESSENTIAL FRAMEWORK

The following modifications are suggested for the Ten Essentials in order to make them more relevant and reflective of city resilience in African cities.

10.2.1 OVERALL SUGGESTIONS:

- Adapt the 10 Essential Tool and questions to reflect the African city context with African city examples for each essential.

- Operationalize theLocal HFA-Local Government Self Assessment Tool component as a facilitated process. This will increase participation and response rates and also make the Ten Essentials an important capacity building tool. Knowledge and skills are more likely to be strengthened in participating cities via an engagement process. Many government staff and non-government organisation's staff in the pilot cities have limited skills (no experience with self-assessments and questionnaires), limited access to computers and will thus not allocate time for such an assessment.

- Build capacity and knowledge about the key themes of the Campaign and the Ten Essentials as part of future engagement processes. Many staff are still learning about DRR themes and how they relate to their work.

- Strengthen the 10 Essential Framework's capacity to capture the impact of governance issues on city level DRR work

- Strengthen the 10 Essential framework's capacity to account for urban-rural and peri-urban issues that affects many African towns and cities (deforestation, farming practices, energy issues, cultural traditions, informal settlement expansion). Make it clear how rural-urban issues impact on DRR.

- Strengthen the 10 Essential framework's capacity to account for the basic urban infrastructure issues that many cities in Africa are still grappling with (infrastructure development and maintenance, basic urban planning, informal settlement expansion, rural urban migration, service provision). Make it clear how urban issues impact on DRR.

- Make very clear that the Ten Essentials framework is one that will 'add value' to local governments and other key stakeholders and can build on existing plans and work being undertaken by relevant organisations. In resource stretched organisations (and

cities), it needs to be clear how DRR links with existing programs. It is less likely that DRR will be addressed if it is presented in a way that is too far outside the current work programs of both Council and other relevant city wide stakeholders

- Make it clear how the Ten Essentials can be achieved over a period of time and across a series of phases. Many African cities are 'far' from the Ten Essentials 'ideal' in terms of plans, budget and infrastructure in place for example. Key stakeholders are not sure what specific steps are required to achieve some or all of the Ten Essentials. The Ten Essentials could therefore be conceptualised as a series of 'City Resilience' Phases' with clear but relevant targets set for African cities. For example:

    - Phase one could be an initial engagement process assessing the status of DRR from different stakeholder's perspectives – outlining what specific strengths, challenges and opportunities there are to further develop DRR activities. This phase would recognize the value of bringing people together in cities around the table to discuss DRR This phase might also include some form of assessment similar to that undertaken in this pilot project (qualitative and quantitative but emphasis on qualitative as many African cities don't have formal data, plans for example, in place to measure). This phase might also begin to gather any relevant best practice activities that are DRR related. Finally, this initial phase would set the groundwork for a city-UNISDR partnership relationship or for identifying key partners to implement the following phases.

    - Phase 2 would be a 'strategic plan development' and 'partnership strengthening' phase as organized and facilitated by UNISDR (or key partners). A key part of the strategic plan process would be setting specific DRR city targets (for both Council and any city wide group formed). It would also be important to set up a broader city wide DRR committee in advance who could come together and develop a city wide DRR strategic plan.

- Phase 3 would comprise a review and monitoring process 1-2 years after the Strategic plan development. This might be a self-assessment process combined with a more detailed assessment of 'key cities' undertaken by UNISDR or the key partners, in order to build best practice examples and truly understand in detail, how DDR is progressed in the African city context. This phase would also include a strategic review of the 10 Essential framework for the African context.

- Phase 4 might therefore be some form of Africa wide conference on DRR development (current successes, best practice activities and on-going/future challenges)

- Strengthen the Campaign message about why cities should be involved and how UNISDR is going to specifically assist. All pilot city participants, especially local government, asked 1) how UNISDR could help them achieve better city resilience according to the Ten Essentials and 2) how participating in the Campaign could truly help them achieve change, the Local HFA-Local Government Self Assessment Tool process was not seen   helpful.

- Strengthen the communication strategy to participant cities so they can be informed of the Campaign's progress. Make the strategy appropriate for the African city context

10.2.2 SPECIFIC SUGGESTIONS FOR MODIFYING THE TEN ESSENTIALS QUESTIONS

ESSENTIAL 1:

- Capture Official decrees and individual work performance contracts (as per individual departments) as well as items like official MOU's between partners in relation to DRR as well as disaster response

- Capture/Reflect on governance (overall political enabling environment) across government authorities and between tiers of government (local, regional and national) such as:

- Capacity, commitment, transparency and leadership (how proactive in seeking solutions? Forming partnerships?)

- Co-ordination, information gathered and shared

- Capture policy and strategic plan on climate change (environmental policies) as well as health plans

- Capture experience of disasters as specific question (as a way to capture local knowledge more specifically)

- Many local governments have no plans or policies so the current question on consulting with community is not relevant at this point (maybe part of second phase evaluation). Furthermore, the most vulnerable communities can sometimes be very difficult for local government to work with because of all sorts of issues and the fact that these communities are still seeking acknowledgement of housing rights for example and the provision of basic urban infrastructure. It would be better that in Phase 2 cities or assessments that this question be reworded to ask Council who it consults, in general, to inform its DRR Strategic Plan (and probe for vulnerable groups etc.) [Suggest rewording or deleting Question 3].

ESSENTIAL 2:

- Capture what overall or general budget and financial commitments Councils have made that might relate to DRR even though there might not be a DRR budget or plan and activities are not viewed specifically DRR.

- Break down budget for DRR and disaster response budget and ask where it is directed (questions of sufficiency seem odd. There are currently no or extremely limited funds for this work in many African local governments)

- Not relevant to mention incentives, micro-financing or financial services (many Councils struggling to meet basic urban needs and have no general social support budget. DRR Incentives is another more advanced phase for them) (i.e. Questions 6, 7, 8 and 9).

- Capture other resource mobilization efforts (do local business undertake corporate social responsibility activities in relation to DRR? What other donors and partners are engaged

in contributing to financial efforts of Local Government?)

ESSENTIAL 3:

- Most of Essential 3 questions are very difficult for many African city Councils to respond to as most have limited or no formal data. What exists is on paper and might be limited to that department.

- Capture formal information exchange networks that are active (data bases rare but relevant information being exchanged)

- Capture informal Indigenous/local knowledge as a legitimate form of community knowledge (main source of knowledge for many in African cities)

ESSENTIAL 4:

- Combine essential 4 and 5 as in the African context, include other facilities such as housing, local markets and even local community kiosks, local bore hole for example, and sometimes supermarket as legitimate critical assets that need protection

ESSENTIAL 5:

- Broaden Essential 5 to include issues of water shortages/unsafe water supplies and food shortages as these are important infrastructure in African cities affected by disaster (especially floods and drought). Add safety, reliability and recovery capacity of fresh water sources and food supplies/sources (bore holes, markets, supermarkets, local food suppliers)

- Question 21 seems more relevant to Essential 6

ESSENTIAL 6:

- Probe for ensuring vital facilities are safe?

ESSENTIAL 7:

- Broaden the concept of 'awareness and education' to capture formal and INFORMAL education channels (community based, chief and elder systems, media participation, local

information exchange forums that might not be directly related to DRR but are avenues through which information and awareness captured)

- Recognise limitation of asking about gender and cultural sensitivity. Most Councils do not run any programs at all although some other organisations might. More specific questions linking DRR with gender and cultural diversity might be better as part of a strategic DRR planning process.

ESSENTIAL 8:

- Need to specify what are considered to be good risk reduction practices using examples from various African cities

- Capture environmental and climate change programs and activities

- Capture engineering and infrastructure activities

ESSENTIAL 9:

- Capture any informal and indigenous local knowledge on early warning systems

- Notion of stockpiles understood but very limited or non-existent.

- Ask more generally if any drills undertaken (very rare) – maybe more this to Essential 7 about Awareness raising?)

ESSENTIAL 10:

- Capture who is specifically involved (what post disaster networks involved and how the community are engaged)

- Reference to dealing with emotional or psychological impacts will get very limited response as most local government are simply trying to address basic needs and issues. Perhaps remove this question.

11. REFERENCES

UNISDR (2012). How to Make cities More Resilient – A DRAFT Handbook for Local Government Leaders.

UNISDR (2010). A Guide to Implementing the Hyogo Framework for Action by Local Stakeholders.

UNISDR (2010). Local Governments and Urban Risk Reduction: best practices and lessons learnt.

UNISDR (2007). Reducing Urban Risk in Asia.

UNISDR (2012). A Practical Guide to Local HFA-Local Government Self Assessment Tool 2011-2013.

Twigg, John (2009). Characteristics of a Disaster Resilient Community. A guidance note.

UNDP (2010). Measuring capacity.

World Bank (2011). Urban Risk Assessments: An Approach to Understanding Disaster Risk and Climate Change in cities.

APPENDIX 1: THE 5 PRIORITIES OF THE HYOGO FRAMEWORK FOR ACTION

1. **Build Institutional Capacity** – Ensure that disaster risk reduction is a national and local priority with a strong institutional basis for implementation

2. **Know Your Risks** – Identify, assess and monitor disaster risks and enhance early warning

3. **Build understanding and awareness** – Use knowledge, innovation and education to build a culture of safety and resilience at all levels.

4. **Reduce Risk –** Reduce the underlying risk factors through land-use planning, environmental, social and economic measures.

5. **Be prepared and ready to act –** Strengthen disaster preparedness for effective response at all levels.

Source: www.unisdr.org/hfa

APPENDIX 2: THE TEN ESSENTIALS FOR BUILDING RESILIENT CITIES

Essential 1. Institutional and administrative frameworks

Put in place the organisation and coordination [frameworks] to understand and reduce disaster risk, based on the participation of citizen groups and civil society. Build local alliances and ensure that all departments understand their role in disaster risk reduction and preparedness.

Essential 2. Financing and Resources

Assign a budget for disaster risk reduction and provide incentives for homeowners, low income families, communities, business and public sector to invest in reducing the risks that they face.

Essential 3. Multi-Hazard Risk Assessment – Know Your Risk

Maintain up to date data on hazards and vulnerabilities, prepare risk assessments and use these as the basis for urban development planning and decisions. Ensure that this information and plans for improving resilience are readily available to the public and fully discussed with them.

Essential 4. Infrastructure Protection, Upgrading and Resilience

Invest in and maintain Infrastructure that reduces risk such as flood drainage, adjusted where needed to cope with climate change.

Essential 5. Protect Vital Facilities: Education and Health, [Food and Water] supplies?

Assess the safety of schools and health facilities, [food and water supplies] and upgrade these if necessary.

Essential 6. Building Regulations and Land Use Planning

Apply and enforce realistic risk compliant building regulations and land use planning principles. Identify safe land for low-income citizens and develop upgrading of informal settlements wherever feasible.

Essential 7. Training, Education and Public Awareness

Ensure education and training programs on disaster risk reduction are in place and in schools and local communities.

Essential 8. Environmental Protection and Strengthening of Ecosystems

Protect ecosystems and natural buffers to mitigate floods, storm surges and other hazards to which your city may be vulnerable. Adapt to climate change by building on good risk reduction practices.

Essential 9. Effective Preparedness, Early Warning and Response

Install and develop preparedness plans, early warning systems and emergency management capacities in your city and hold regular public preparedness drills.

Essential 10. Recovery and Rebuilding Communities

After any disaster, ensure that the needs of the survivors are placed at the centre of reconstruction, with their support in the design and implementation of the recovery and response, including rebuilding homes and livelihoods.

APPENDIX 3: KEY UN STAFF WHO INFORMED THE DEVELOPMENT OF THE QUESTIONNAIRE

Mr Youcef Ait-Chellouche, Regional Director, UNISDR Nairobi Kenya

Mr Dan Lewis, Chief, Disaster Reduction, UN Habitat

Ms Ansa Mausad, Program Officer, Disaster Reduction, UN Habitat

APPENDIX 4: QUESTIONNAIRE

CITY RESILIENCE QUESTIONNAIRE

Essential 1. Institutional and administrative frameworks
Put in place the organisation and coordination (frameworks) to understand and reduce disaster risk, based on the participation of citizen groups and civil society. Build local alliances and ensure that all departments understand their role in disaster risk reduction and preparedness

Key themes for this 10 essential:

1. Council's Organisational and coordination frameworks
2. Local organisations and networks in the city working on disaster prevention
3. Which departments in Council are responsible for natural disasters or have some role to play?

PROBE FOR SPECIFIC DEPARTMENTS AND WHAT THEY MIGHT DO
PROBE FOR INTER DEPARTMENTAL COMMITTEES OR WORKING GROUPS

1. Where does their official mandate come from to do this disaster prevention/management related work? Is there a policy, plan in place? An official Mayoral decree? Or does it come from the National Government?

PROBE FOR SPECIFIC PLAN, POLICY ETC AND ASK FOR COPY
PROBE FOR ROLE NATIONAL OR REGIONAL GOV FRAMEWORKS THAT INFORM WHAT LOCAL GOVERNMENT DOES

1. What specific activities are being undertaken in regard to disaster prevention?
2. Do these same departments do work on climate change (or is that another department's responsibility)? Is there any link between climate change work done in Council and disaster prevention?

CHECK LINK BETWEEN TWO – HOW LINKED OR NOT

1. During the last natural disaster in the city, who from the broader community was involved in helping? Who did Council work with?

PROBE FOR SPECIFIC GROUPS – NGO'S, CBO'S, COMMUNITY LEADERS, DONORS, BUSINESS LEADERS ETC AND EVEN OTHER GOVERNMENT BODIES. EMERGENCY SERVICES

1. Are there organisations, individuals and groups still active and working on disaster prevention issues (and with Council)? How are they still engaged?

PROBE FOR WHO CURRENT GROUPS/NGO'S ARE? IF THEY ARE DIFFERENT OR THERE ARE MORE NGO'S OR COMMUNITY? ARE OTHER LOCAL GROUPS ENGAGED

1. I'd like you to make a quick assessment of the effectiveness of the following items we have just discussed using a scale where 0=don't know, 1=least level rank and 5=highest level rank:

Please write your answer down on the paper in front of you [show paper] which also shows the ranking scale.

So, how effective is:

1. This Council's institutional frameworks and its formal mandate
2. The Diversity/range and presence of local alliances in the city (so those in the broader community who are working on disaster prevention)
3. The Effectiveness of those local alliances [co-ordination]

Essential 2. Financing and Resources
Assign a budget for disaster risk reduction and provide incentives for homeowners, low income families, communities, business and public sector to invest in reducing the risks that they face

Key themes for this 10 essential:

1. Availability of funds for Council's disaster prevention work
2. Incentives for the community to undertake disaster prevention activities/recovery
3. Economic plan to build diversity in business
4. With Department X's disaster related work, how do you finance this work? Where does any money to support Council's activities come from?

PROBE FOR INTERNAL AND EXTERNAL FUNDS

ASK IF ANY ANNUAL REPORT SHOW BUDGET LINE FOR DISASTER REDUCTION

1. Are there any schemes to support local people or business to undertake disaster prevention activities? What about if they are affected by a natural disaster? Are there any schemes in place [recovery, microfinance, insurance schemes]?
2. After the last disaster struck this city, how were business affected? Have any actions been undertaken to work with business on disaster prevention? Does Council have a general economic strategy/plan which considers disaster and risk? Are business encouraged develop risk sensitive enterprises [not develop in high risk areas, or undertakes actions that undermine any fragile environments or encourages business diversity so if disaster strikes, there is some capacity for economic recovery]?
3. Are there any awards in place for best practices in terms of reducing risk of disaster in the city?

PROBE FOR AWARDS, PROGRAMS, COMPETITION AT THE UNIVERSITY

ASSESSMENT

1. Like before, I'd like you to make a quick assessment of the effectiveness of the following items we have just discussed using a scale where 0=don't know, 1=least level rank and 5=highest level rank:

Please write your answer down on the paper in front of you [show paper] which also shows the ranking scale.

So, how would you rate the development of:

1. The money available/budget allocation to Council's for disaster prevention work?

2. Incentives for disaster prevention work/recovery?

3. Economic planning to reduce impact of disaster on business/build business diversity?

Essential 3. Multi-Hazard Risk Assessment – Know Your Risk
Maintain up to date data on hazards and vulnerabilities, prepare risk assessments and use these as the basis for urban development planning and decisions. Ensure that this information and plans for improving resilience are readily available to the public and fully discussed with them.

Key themes for this 10 essential:

1. Up to date data on hazards and vulnerability

2. Use of information to inform urban planning and decisions

3. Availability of information to general public

4. Do you have drought/flood information [rainfall levels, weather patterns, lake water level variations for example or communities at risk?]. What specific information or data exists on the disasters that might affect your city?

PROBE FOR ANY VULNERABILITY MAPPING, PEOPLE OR AREAS AT RISK

1. Who collects the information? Are there other people outside of Council collecting information/data?

2. What do you use this information for?

PROBE IF INFORMATION/DATA USED TO INFORM ANY COUNCIL ACITIVITES, PLANS, PROGRAMS, POLICIES

PROBE IF OTHER ORGANISATIONS USE DATA

1. Is any of this data or information made available to the general public? Who? How?

2. Are there specific constraints or issues faced regarding data collection, mapping and dissemination in the city?

ASSESSMENT

3. I'd like you to make a quick assessment of the effectiveness of the following items we have just discussed using a scale where 0=don't know, 1=least level rank and 5=highest level rank. Please write your answer down on the paper in front of you [show paper] which also shows the ranking scale.

Essential 4. Infrastructure Protection, Upgrading and Resilience

Invest in and maintain Infrastructure that reduces risk such flood drainage, adjusted where needed to cope with climate change

Key themes for this 10 essential:

1. Invest in, and maintain risk infrastructure
2. Inclusion of climate change issues in infrastructure planning?
3. In what ways has Council invested in infrastructure to prevent or reduce the impact of flood/drought (natural disaster)?

PROBE FOR ROADS, DRAINS, WASTE DUMPS, COMMUNICATION STRUCTURES AND WATER?

1. Are there any plans in place to upgrade certain infrastructure or facilities in view of trying to make them more able to cope with impact of drought or floods?

PROBE FOR IMPROVING WELLS, WATER SOURCES, PLANT TREES, FLOOD BANKS, DYKES, SLOPE STABILISATION ETC

1. Is anyone else in the city working on infrastructure prevention activities?

PROBE FOR OTHER GOVERNMENT, NGOS, DONORS ETC LOCAL COMMUNITY

ASSESSMENT

1. I'd like you to make a quick assessment of the effectiveness of the following items we have just discussed using a scale where 0=don't know, 1=least level rank and 5=highest level rank:

Essential 5. Protect Vital Facilities: Education and Health, [Food and Water] supplies?

Assess the safety of schools and health facilities, [food and water supplies] and upgrade these if necessary?

Key themes for this 10 essential:

1. Assess safety of schools, health facilities plus food and water facilities
2. Plans to upgrade and improve?
3. When the last disaster struck this city, how were education and health facilities affected?
4. What about food and water supplies? Are there grain reserves? Water tanks?
5. Has council got any plans or undertaken any activities in regard to these facilities as a result of previous experiences?

PROBE FOR IF ANY FACILITIES MOVED, UPGRADED ETC? ANY FORMAL PLANS OR ACTIVITIES IN PLACE?

ASSESSMENT

1. I'd like you to make a quick assessment of the effectiveness of the following items we have just discussed using a scale where 0=don't know, 1=least level rank and 5=highest level rank:

Essential 6. Building Regulations and Land Use Planning

Apply and enforce realistic risk compliant building regulations and land use planning principles. Identify safe land for low-income citizens and develop upgrading of informal settlements wherever feasible

Key themes for this 10 essential:

1. Apply and enforce building regulations and land use planning principles
2. Identify safe land for vulnerable groups
3. Upgrade informal settlements
4. What building codes and regulations etc applied and enforced that relate to disaster prevention and how are they applied and enforced?

PROBE FOR SPECIFIC CODES

1. What percentage of buildings are compliant in the city? Rough estimate?
2. What land use planning regulations are applied and enforced in the city (in relation to disaster prevention)?
3. Are there many people/communities living in high risk areas? What numbers approximately?
4. How do you address the needs of low income people or those living in risk prone areas? Is there a program/plan for low income housing upgrading?

PROBE FOR COUNCIL VIEWS AND IF THEY ARE UNDERTAKING ANY ACTIVITIES.

ARE THERE OTHER GROUPS DOING WORK ON THIS? WHO? WHAT?

ASSESSMENT

1. I'd like you to make a quick assessment of the effectiveness of the following items we have just discussed using a scale where 0=don't know, 1=least level rank and 5=highest level rank:

Essential 7. Training, Education and Public Awareness
Ensure education and training programs on disaster risk reduction are in place and in schools and local communities

Key themes for this 10 essential:

1. Ensure education and training programs on DRR in place for general public.
2. In schools.
3. Have 'awareness days/activities' in place.
4. Are you aware of any awareness/education program about disaster prevention in the city?

PROBE FOR WHO RUNS THEM? COUNCIL, NGOS? SCHOOLS? HOSPITALS, EMERGENCY SERVICES? LOCAL LEADERS? ETC?

IF A SPECIFIC ACTIVITY MENTIONED, ASK FOR DETAIL

ASK IF ANYONE AWARE IF ACTIVITIES ARE SENSITIVE TO LITERACY ISSUES, GENDER ETC

1. How does the general public find out about disaster prevention? Is there a system in place if there's an emergency? Is there general information if someone is just interested?
2. Are there any special days in the city dedicated to disasters, the environment or climate change?

ASSESSMENT

1. I'd like you to make a quick assessment of the effectiveness of the following items we have just discussed using a scale where 0=don't know, 1=least level rank and 5=highest level rank:

Essential 8. Environmental Protection and Strengthening of Ecosystems
Protect ecosystems and natural buffers to mitigate floods, storm surges and other hazards to which your city may be vulnerable. Adapt to climate change by building on good risk reduction practices.

Key themes for this 10 essential:

1. Protect ecosystems and natural buffers
2. Adapt to climate change by using risk reduction practices.
3. What 'natural' buffers are here that help reduce the impact of drought or flood? [Narok – trees that reduce progress of drylands? Kisumu - natural highlands and drainage basins, good forest land etc]?
4. Does Council mention these natural buffers in any plans? Are they covered in any environmental plans/mandates?
5. Are there any activities or programs in place to protect these buffers? Whose doing this type of work here?
6. What about any activities to reduce the vulnerability of areas where it's naturally very dry, or a low lying area, low shore line around lake etc, poor soils that make floods very bad/water fast etc). Is anyone doing anything to reduce these natural vulnerabilities?

PROBE FOR GENERAL ACTIVITIES BEING UNDERTAKEN TO PROTECT THE ENVIRONMENT. WHO IS DOING WHAT?

ASSESSMENT

1. I'd like you to make a quick assessment of the effectiveness of the following items we have just discussed using a scale where 0=don't know, 1=least level rank and 5=highest level rank:

Essential 9. Effective Preparedness, Early Warning and Response
Install and develop preparedness plans, early warning systems and emergency management capacities in your city and hold regular public preparedness drills

Key theme for this 10 essential:

1. Preparedness plans (early warning systems and emergency management)

1. How are you preparing for the next natural disaster in the city? Do you have a plan? Early warning system/method to let people know? Emergency committees?

PROBE FOR WHAT IS BEING DONE, WHAT PLANS FOR FORMAL ACTIVITIES TAKING PLACE?

IS FOOD AND WATER STOCKPILED? DO HOSPITALS AND SCHOOLS HAVE PLANS AND EMERGENCY SUPPLIES? PROBE FOR PRACTICAL SUPPLIES?

1. How engaged is the general local community on preparing for any future disaster event?

WHO IS INVOLVED? PROBE FOR NGOS ETC AND COMMUNICATIONS AND SECURITY SECTORS? LOCAL BUSINESS?

ASSESSMENT

1. I'd like you to make a quick assessment of the effectiveness of the following items we have just discussed using a scale where 0=don't know, 1=least level rank and 5=highest level rank:

10. Recovery and Rebuilding Communities
After any disaster, ensure that the needs of the survivors are placed at the centre of reconstruction, with their support in the design and implementation of the recovery and response, including rebuilding homes and livelihoods

Key theme for this 10 essential:

1. Ensure the needs of those affected are given priority.

2. Rebuilding homes and livelihoods.

3. After the last significant disaster in the city, what did the affected individuals and communities receive (any assistance? What type? From who?)? What was Council's role (land resettlement)? (linking people together? Overall coordination role?)

4. Who assisted with rebuilding homes and livelihoods?

PROBE FOR WHICH ORGANISATIONS AND GROUPS ETC AND WHAT THAT THEY DID?

1. Is there are recovery and rebuilding strategy for the city?
2. Compared to the last disaster that happened here, are there more or less organisations and networks who could help if something happened again?

PROBE FOR LOCAL, EXTERNAL ORGANISATIONS?

1. If a disaster happened again, would Council undertake similar sorts of actions/activities?

ASSESSMENT

1. I'd like you to make a quick assessment of the effectiveness of the following items we have just discussed using a scale where 0=don't know, 1=least level rank and 5=highest level rank:

APPENDIX 5: RANK SHEET

RANK SHEET

city: **Department/Org:**

0= DON'T KNOW   1=least/minor   2-3=Satisfactory   4-5= Most/highest/comprehensive

Essentials	Questions	Questions Rank	Overall 'Ten Essential 'Rank	Comments
1.	1. Institutional frameworks and formal mandate			
	2. Diversity/range and presence of local alliances			
	3. The Effectiveness of those local alliances (co-ordination)			
2.	1. The money available for disaster prevention?			
	2. Incentives for disaster prevention activities?			
	3. Economic planning to reduce impact of disaster on business/build business diversity?			
3.	1. Level of data and information on disasters, risks?			
	2. Way data used to inform Council plans/ activities?			
	3. The way the information is made available to the general public?			

4.	1. Investment and maintenance of the city's risk infrastructure			
	2. Inclusion of climate change issues in infrastructure planning?			
5.	1. Safety/capacity of schools infrastructure to withstand disaster?			
	2. Safety/capacity of health facilities?			
	3. Safety/capacity of local food suppliers to withstand disaster?			
	4. Safety/capacity of water suppliers/supplies to withstand disaster?			
	5. Improvement or upgrading plans?			
6.	1. Application and enforcement of building codes and regulations in the city?			
	2. Application and enforcement of land use planning in the city?			
	3. Programs and activities to address needs of vulnerable groups (especially housing)?			
7	1. Education and training programs on DRR in place for general public.			
	2. In schools?			
	3. Awareness days for local community?			

8.	1. Activities to protect ecosystems and natural buffers.			
	2. Formal plans/ mandates in place for environment protection related to risk prevention.			
	3. Depth and breadth of groups and organisations undertaking this work.			
9.	1. Preparedness plans (early warning systems and emergency management) by Council?			
	2. Formal networks and links amongst relevant stakeholders?			
	3. General community preparedness?			
10.	1. Needs of those affected given priority.			
	2. Partnerships in place			
	3. Homes and livelihoods rebuilt			

Additional Comments?

Please write any comments below in relation to disaster prevention issues (challenges, strengths) facing this city.

APPENDIX 6: SWOT ANALYSIS

SWOT NAROK CITY COUNCIL	
STRENGHTS (COUNCIL)	**WEAKNESSES (COUNCIL)**
• Political will of Council (Councillors and Chairman) • Interest and will of Council staff • Local knowledge about town, people, weather patterns, floods • Experience in managing floods • Some broad strategic planning taking place	• Lack of specific strategic plans (even larger overall plans still being formulated) • Lack of Financial resources (perception that council might receive more funds if it were a municipality rather than a) • Lack of trained personnel and professionals • Lack of manpower (law/regulation enforcement) • Limited information development (capacity to inform community and government, web development) • Lack of strategic partnerships/ consultation opportunities/co-ordination with other levels of government • Inability to control Narok city development (out of the CBD which is most affected by floods and development of informal settlements) • Inadequate waste management system • Inadequate drainage system • Inadequate capacity to manage river water flows
OPPORTUNITIES (EXTERNAL)	**THREATS (EXTERNAL)**
• Predictable weather patterns (we know when it will rain) • Potential of town growth to bring more organisations and funding to the city • Good arable land in area which can result in higher income levels for general population and potentially more council revenue • Potential of new constitution for delivering a fresh political environment under which council can flourish and get things done • Potential for greater partnership (project and funding) with regional and Central government	• Managing flood situations when dark – hard to predict when flood will hit, level of severity and where people are etc • Uncontrolled town growth (especially in CBD and informal settlements) • Deforestation • No reforestation/tree planting programs in place • Poor farming practices • On-going lack of government coordination, partnership and consultation • Limited presence of NGO's in Narok • Continued political process which relies on lobbying, favours • High rainfall

SWOT KISUMU MUNICIPAL COUNCIL

STRENGHTS [COUNCIL]

- Strong Political Will and interest in DDR
- Strong staff capacity [comparatively highly educated and trained staff]
- Proactive Council
- Specific DDR activities being undertaken
- Solid infrastructure in planned areas
- Welcoming culture of Council, open to new ideas and support
- Kisumu first Millennium city
- Council capacity to engage a wide variety of partners and donors independently of the national government
- Council's capacity to build on geographical position as 'gateway' to East Africa
- Solid informal settlement activities being undertaken
- Good partnerships to develop evacuation centres near schools in high risk areas
- Good community engagement in the local communities surrounding the school and evacuation centres

WEAKNESSES [COUNCIL]

- Limited financial resources [i.e. want to upgrade storm water drains, continue program of putting fire hydrants in business and other facilities
- Limited capacity to contain informal settlements and meet all resident's needs
- Old infrastructure – sewerage system, old water pipes [not council's direct responsibility – Regional Urban Water Authority]
- Limited regular networking with other partners and key stakeholders on DRR
- Lack of overall Council preparedness plan

OPPORTUNITIES [EXTERNAL]

- Large range of NGO's and development organizations
- Large proportion who have head offices in Kisumu
- Range of special programs being undertaken [Millennium city project] and general interest by donor community to support activity in Kisumu
- International Airport
- Kisumu's geographical location to many other East African countries
- New constitution could bring new opportunities for Council to improve partnerships and governmental coordination efforts [improved governance environment]

THREATS [EXTERNAL]

- city growth, especially of informal settlements
- On-going deforestation in rural hinterland [Nandi Hills]
- Climate change impacts
- Development partners and NGO's often focus on issues in rural hinterland rather than in Kisumu City. So they only 'sleep' in the City and don't work or engage with it
- Overall political enabling environment vulnerable - Links between levels of government limited, coordination and proactive interaction limited [more reactive or non-existent]
- International Airport located right next to Kenya Pipeline Authority fuel depot. Significant risk
- Hyacinth on the lake makes fisherman vulnerable and lake rescue difficult
- Sensitizing and creating community awareness difficult amongst very poor communities as they distrust government and outsiders
- Limited capacities of key services [hospitals, emergency response ambulances etc]
- Many areas of city are not well lit at night which makes rescue efforts difficult
- Culture of crowds appearing after a disaster can be difficult in terms of crowd control.
- Reliance on donor partners to assist in making things happen

SWOT MOSHI MUNICIPAL COUNCIL

STRENGHTS [COUNCIL]

- Political will and staff awareness of issues
- Proactive Council on a range of programs (Clean city Campaign, tree planning Campaign)
- Council policy on disaster risk reduction
- Plans in place for disaster risk reduction feeding into various department plans
- Range of relevant regulations and bi-laws in place and in the main, operationalized
- Integrated planning of activities/departmental co-ordination
- Some specific funds in department budgets that go towards infrastructure and activities in relation to disaster prevention and response
- Recognition of informal settlers and their rights
- Informal settlement upgrading program
- Tree planting program

WEAKNESSES [COUNCIL]

- Limited financial resources (i.e. want to upgrade storm water drains, continue program of putting fire hydrants in business and other facilities)
- Old infrastructure – sewerage system, old water pipes (not council's direct responsibility – Regional Urban Water Authority)
- Lack of overall Council preparedness plan

OPPORTUNITIES [EXTERNAL]

THREATS [EXTERNAL]

For more information please contact: Youcef Ait Chellouche, Deputy Regional Coordinator UN SIDR Africa at youcef.ait-chellouche@unep.org

NOTES

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