

# Strengthening Early Warning and Early Action strategies for Urban for Security in Kenya

Omoyo Nicodemus Nyandiko\*

Masinde Muliro University of Science and Technology, Kenya

Received: November 11, 2017; Published: December 18, 2017

\*Corresponding author: Omoyo Nicodemus Nyandiko, P.O Box 190 50100 Kakamega, Kenya

## Policy Brief

### Executive Summary

Kenya is witnessing rapid population growth in the urban centers estimated at 4.4 % per year. It is projected that the number of people living in urban areas will exceed those in rural areas in the next two decades where majority of the population (60%) are living in informal settlements. Due to diverse physiographic conditions, urban areas are more exposed to various types of risks than even rural areas which are likely to worsen due to climate change. An increasing concentration of population coupled with extreme events, results in high damages to assets, interruptions in business continuity, loss of lives, displacement of populations, which is further enhanced by economic and social vulnerability. Informal settlements in urban areas face serious threat from such emergencies with food security top amongst the crises facing them.

Those living in the slums earn low wages which are often uncertain and unreliable to meet their needs. Majority of the dwellers whose earnings range from KS 12, 845 to KS 6.666 spend between 80 % - 100 % of their income on food. Unlike those living in rural areas the changes in food prices impact seriously on these categories by price global fluctuations. Additionally, most of them exhibit shift in diet from those consumed in rural areas. Besides, food security indicators, thresholds and coordination mechanism are weak and not well developed like those in rural areas such as the Arid and semi Arid Lands (ASALs) spearheaded by NDMA. This depressing and uncertain state of affairs justified the development of the IDSUE project spearheaded by Concern Worldwide under the START consortium.

- a) To determine indicators for early detection of humanitarian emergency situations; and coping strategies.
- b) To develop surveillance systems for detection of early warning signs of a humanitarian emergency/crisis and
- c) To identify thresholds and triggers for action for defining when a situation has reached an emergency/crisis stage.

Despite the impressive work done by the START consortium to develop these indicators and thresholds for food security, a number of challenges may hinder full adoption of this mechanism in order to address urban emergencies. First, policies and strategies are quite unfriendly to the urban poor and have not integrated food security issues with agriculture budgets at 6 % below the recommended 10%; secondary, there is limited resources dedicated to monitoring food security issues in urban areas by the NCCG and stakeholders; thirdly, there appears to be a weak coordination mechanism without a dedicated agency with a strong convening and coordinating power similar to NDMA and finally tools and approaches developed by Concern Worldwide may need further testing and research to validate them. It is for the grounds that this policy brief to galvanize efforts of the policy makers including NCCG, national government, donors, private sector and CBOs to ensure the good work by Concern worldwide and partners is fully adopted in support of urban food security. Such efforts will ensure mechanism and strategies for the urban poor and dwellers of slums are supported to cope with the crises in urban areas and challenges associated with climate change.

### Background to Urbanization and Disaster Risks

Humanity is now half urban and is expected to be nearly 70 percent by 2050 [1]. Urbanization is predominantly taking place in cities in developing countries, most notably in Africa and Asia. In Kenya, urbanization is rapidly increasing at about 4.4 per cent annually with an estimated 60 % of urban population living in informal settlements [2]. High population densities, soaring crime, poor sanitation and inadequate health care services are contributing to high disease burdens more than rural populations [3]. Most of these slum dwellers are powerless, lack personal security, tenure to their land and access to stable income sources [4]. Additionally, sub-standard infrastructure including housing and inherent socio economic inequalities increase susceptibility of the urban residents to a variety of emergencies which seriously undermine their social capital and life expectancy [5]. Such rapid

growth of urban settlements could gradually turn into crucibles of death from natural and manmade disasters unless targeted policies and programmers are enacted to enhance their resilience.

The common shocks that the urban dwellers are exposed to include fires, floods, security risks, water shortages and rising food prices. Mortality and malnutrition levels are routinely used to detect when a disaster situation has entered a crisis phase and trigger humanitarian response in rural settings. However, use of these indicators and corresponding thresholds pose some challenges due to high population densities, different livelihoods and coping strategies in urban settings. It is imperative therefore to develop a surveillance system with indicators that reveal stress in early stages of a crisis to aid humanitarian and development agencies activate early action [6]. Hunger, food insecurity and negative coping strategies have been noted as strong outcomes of slow onset emergencies in informal settlements. Urban crises disproportionately affect the poorest disproportionately particularly the female headed households, youth, children, marginalized groups, people living with AIDS, elderly and stigmatized ethnic groups [7].

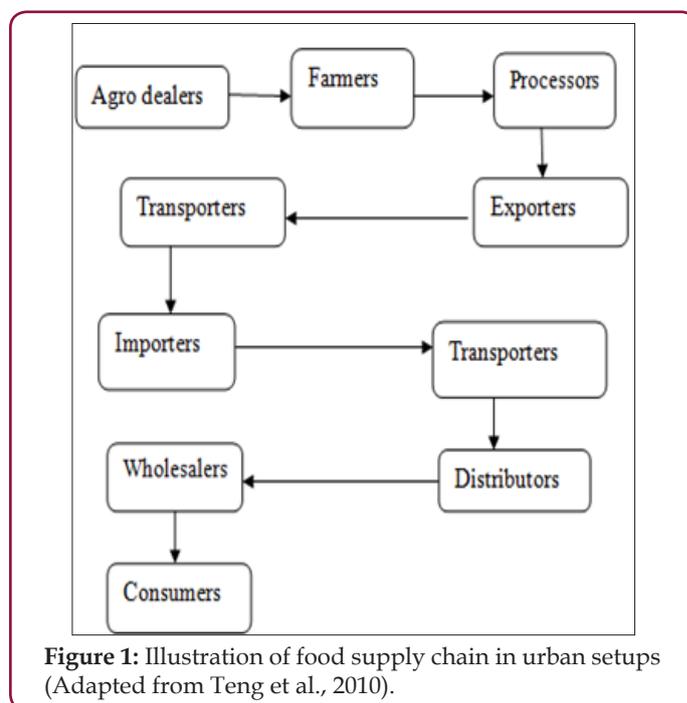
**Urbanization and food security**

Food and nutritional security are basic needs for not only human survival but also for economic productivity and human development. It is widely accepted that there are four dimensions to food security: availability, access, utilization and stability. While each dimension is necessary for overall household food security, they may have different weightings particularly in urban settings. The main trends impacting on urban food security include: demographic changes, diversification of diets, high cost of farm inputs, poor investments in agriculture, natural disasters, climate change and unfriendly policies and legislation toward farmers [8]. Promoting food security directly contributes to the realization of human rights and fundamental freedoms as provided by the Kenya Constitution 2010. It also contributes directly to achievement of two Sustainable Development Goals (SDGs) number one

- a) Ending poverty in all its forms everywhere, and SDG number
- b) End hunger, achieve food security and improved nutrition and promote sustainable agriculture.

For many years, emergency interventions focusing on food security and nutrition have had a predominantly rural focus and there is need to reverse this approach to accommodate the needs of the fast growing urban populations. The 2007-2008 global food crises that occurred in most cities across the world highlighted and exposed the vulnerability of the urban food system [9]. In Kenya, the 2007-2008 post election violence contributed further to deterioration of the living conditions of the residents in urban areas thus underpinning the need to develop and strengthen food security surveillance systems in urban set ups. These crises revealed that the urban poor and other minorities were hardest hit making it difficult to maintain a decent standard of living [10] (Figure 1).

The urban food security environment presents several challenges that differentiate it from a rural context. First, the urban dwellers purchase almost all their food requirements from markets. Secondly, majority of urban dwellers exhibit shift in staple food from maize, sorghum and traditional foods to rice and wheat. This exposes the urban poor to international markets than their rural counterparts as their diet is controlled more by global markets and by many actors (Figure 1). Urban residents are also exposed to changes in global events such as Foreign Direct Investment (FDI) which would influence remittances that some urban dwellers depend on. Lastly, the income sources of the urban poor are casual, insecure, uncertain and low paying posing huge risk to food access for the residents. Thus when emergencies strike, the urban dwellers are negatively impacted even more than their rural counterparts resorting to negative coping strategies including theft.



**Urban Humanitarian Response**

Humanitarian response to urban emergencies is not new. However, the approaches and tools are relatively new and continue to evolve. Recent experiences in urban humanitarian responses emphasize the need for engagement through a strong coordination mechanism with a wide spectrum of stakeholders such as the national and local/county governments, private sector, civil society, donor community, the media, multilateral organizations, CBOs and local communities. A key challenge affecting effectiveness of urban humanitarian response has been lack of consensus on indicators for detecting when chronic poverty has tipped into a crisis [11]. A clear methodology and indicators appropriate for urban set ups to monitor the situation and trigger timely humanitarian response when it has reached a certain threshold is essential. Such a mechanism should consider urban peculiarities including high population densities which can unravel the actual humanitarian situation (Figure 2).

The GAM rate in Nairobi slums is 5.7 % which translates to about 22,000 cases of children under five years old with severe to moderate acute malnutrition. In contrast, Marsabit a rural county with GAM rates of 20 % has about 7,500 cases way beyond the threshold. The accepted GAM rate to declare a humanitarian crisis is 15% which would translate to 60,000 children under five years with severe or moderate malnutrition in Nairobi's slums. The current 5.7 rate represents a hidden hunger crisis in Nairobi slums. Were we to reach 15 % GAM rates in Nairobi's slums, the current health systems and infrastructure would not likely sustain such a crisis (Source: Concern Worldwide, IDSUE Project 2015)

Figure 2: Hidden crisis in urban areas.

Equally essential is putting in place a credible people-centered early warning system [12] (EWS) to support early humanitarian response in the event of urban crises. The EWS should generate and disseminate timely and meaningful information to allow populations at risk and stakeholders sufficient lead time to take appropriate actions to mitigate the impacts of disaster [13]. For the EW information to be effective, a prepositioned contingent fund and response plan should be rolled out immediately the indicators have reached a certain threshold. An effective multi stakeholder coordination mechanism to champion delivery of the various interventions by the government and humanitarian actors should also be established. This is vital to enhance efficiency and effectiveness of humanitarian operations, limit duplication of efforts and clarify roles and responsibilities of various actors. Often, coordination particularly during emergencies has proved to be a

challenge leading to unacceptable delays and inefficient delivery of interventions.

The humanitarian IDSUE research project has made remarkable progress in developing surveillance systems, strengthening institutional capacities and development of indicators and thresholds for urban emergencies [14]. Generally, the study found that majority of the community members living in the informal settlements are food insecure with up to 64 per cent of sampled household being food insecure [15]. This pioneering work needs to be up-scaled by NCCG, national government, private sector donors and other stakeholders as a mechanism for tackling food insecurity in urban areas. The study has contributed to development of indicators and thresholds for phase classification of urban crisis as shown in Table 1 below.

Table 1: Thresholds for early warning indicators (Source: IDSUE survey data, 2015).

| Indicator threshold | % of HH experiencing shock | Equivalised monthly income | No. of basket | % of HHs with stable income earner | % of HH with at least one child reporting diarrhea |
|---------------------|----------------------------|----------------------------|---------------|------------------------------------|--|
| Normal              | Less than 10%              | More than 8000             | 85 or more    | More than 30%                      | Less than 15%                                      |
| Alert               | 10-15%                     | 6500 - 8000                | 75 - 85       | 25 - 30 %                          | 15 - 20  |
| Alarm               | 10-15%                     | 5000 - 6500                | 55 - 70       | 15 - 25 %                          | 20- 25 %   |
| Emergency           | 20 % or more               | Lower than 5000            | 55 or less    | Less than 15 %                     | More than 55 %                                     |

**Legal & Policy Framework for Food Security in Kenya**

A number of legislation and policies frameworks exist at global, regional and national levels in support of urban food security and agriculture. At county and national levels, the IDSUE spearheaded by Concern Worldwide under the START Network, the NCCG Disaster & Emergency Management Act, the National Disaster Management Bill and the National Food and Nutrition Security are driving the agenda to ensure the right to food is achieved. However, in the event of emergencies particularly in the urban set-ups, these policies and legislation frameworks do not clearly spell out mechanisms for ensuring the nutritional and food security needs of the urban poor are realized.

At regional level, the efforts supporting food security include IGAD Drought Disaster Resilience and Sustainability initiative [16] (IDDRSI) - a regional initiative for reducing vulnerability and building resilience by IGAD and the Comprehensive Africa Agriculture Development Programme [17] (CAADP) Framework and Agenda 2063. The Africa Risk Capacity [18] (ARC) of AU is supporting agriculture insurance mechanism thus promoting food security and agricultural productivity. Agenda 2063 which is

building on existing continental initiatives is a strategic framework of the AU to accelerate socio-economic transformation including food security and agriculture. The CAADP aims at committing countries to increase agricultural productivity by increasing public investment to at least 10 % of their national budgets by 2008. The national and county governments need to capitalize on these initiatives to ensure appropriate programs and strategies are developed to combat urban food insecurity.

The 10 % CAADP commitment on urban agriculture and food security issues are not integrated in the NCCG legislation as the current agriculture budget allocation is only 6 % of the total. These targets need to be cascaded to all city counties of Nairobi, Mombasa and Kisumu to ensure agricultural budgets are at least 10 per cent of the allocation from the national government to support food security (Figure 3). However, there are critical gaps in these strategies and legal frameworks. Generally there are limited provisions in these documents for engaging with urban communities. The policy frameworks also assume homogeneity in populations being targeted. Even in informal settlements all urban populations are not homogenous - there are huge differences among the residents. Additionally, there seems to be no concrete

plan for funding the implementation of these strategies and policy frameworks. There is also limited formal engagement with political

leaders and decision makers which makes it hard to get urban emergencies and food insecurity issues high on the political agenda.

1. Vision 2030
2. National food and nutrition security policy, 2009
3. National Agricultural Sector Extension Policy
4. National Drought Management Authority Act, 2016
5. ASAL policy, 2011
6. Agriculture Sector Development Strategy, 2009
7. Livestock policy, 2008
8. National Disaster Management Policy (Draft)
9. National Climate change Response Strategy, 2008
10. National Urban development Policy (Draft)
11. Urban areas and cities Act, 2011
12. Kenya Rural Development Strategy
13. Nairobi City County Disaster Management and Emergency Act, 2017
14. Nairobi City County Integrated Development Plan, 2013 -2018
15. Nairobi City County Urban Agricultural Act, 2015

**Figure 3:** A glance at policies, legislation and strategies in support of urban food security.

### Cost Effectiveness of Early Humanitarian Response

Most slow onset emergencies such as drought and food insecurity generally predictable. Major problem has been the long time taken to mobilize humanitarian aid from donors and governments to respond to the crisis. Late humanitarian response often leads to loss of lives, damage to livelihoods, depletion of assets and erosion of coping capacity leading to destitution of affected households. For instance it is estimated that the 1984 famine in Ethiopia caused a half a million deaths while the 2011 drought in Horn of Africa resulted in 50,000 to 100,000 deaths [19] When food aid is provided in time mortality rates declines by up to 40% [20] particularly among the under 5 children. With regard to economic impacts, drought in every 5 years lowers GDP per up to 4 % per year. Reduced food intake common among low income households shocks is associated with increased mortality and contributes to 33 % of childhood deaths among the under 5 in Africa. In absence of rapid early response, the mortality rates increase substantially.

Further studies by ARC in Africa has shown that a total cost of USD 81 Million is lost in the event of a high magnitude drought, a slow onset disaster. This is equivalent to USD 221 M over 5 years or USD 44 M per year [21]. In urban settings it may be much lower due to nature of livelihoods in slums and peri-urban areas. With regard to food aid alone it is estimated that the humanitarian community spent about USD 54 per person per year on a high impact slow onset emergencies. At macroeconomic level, the ARC assessment indicates that slow onset emergencies have adverse impact on the GDP of 4 percent per year for 1 - in - 10 year drought [22]. The study concluded that 1 US \$ saves \$ 4.40 spent after the crisis. At household level, ARC analysis reveals that nearly US \$ 1,300 is lost per household in three month as a result of slow onset emergencies in HoA. Thus early intervention is critical in saving lives, protecting economic turn down and sale of assets at household level.

### Implications, Conclusions and Recommendations

The pioneering research work by Concern Worldwide under START consortium on developing indicators, thresholds and strengthening surveillance systems for urban emergencies is

promising good results. It is quite relevant and strategic to changing livelihoods and demographic needs of the urban dwellers. However, there is need to move forward this work to focus more on socio economic contexts of slow onset emergencies on the urban poor. The tools developed may need further testing and refinement by the academia and research organizations to suit evolving issues. Comparing the performance of these tools and approaches with similar research work undertaken in Ethiopia would also help validate these tools. Further studies need to be pursued on urban vulnerability and hazard assessment and the linkages between weather forecasting and contingency planning to enhance early response mechanisms within a DRR framework.

### Conclusion

Kenya is witnessing rapid growth in urban centers which is projected to exceed the rural population by 2050. Majority of these urban dwellers are living in informal settlements characterized by inhuman and deplorable living conditions without adequate access to food, health care, water and sanitation and housing and are at greater risk to food insecurity and climate change related disasters. There is a wide range of humanitarian and development actors in urban areas operating in environment without clear terms of reference thus impeding their effectiveness and delivery of their assistance. Besides, the existing NCCG Disaster and Emergency Act lacks a policy and a plan to operationalize and support it is full implementation. The coordinating structures are unclear and need urgent review to enhance effectiveness to EWEA mechanisms.

The current IDSUE work carried out in Nairobi, Mombasa and Kisumu slums is shifting the humanitarian context from the familiar rural emergency response to emerging urban response mechanism. The ground breaking innovative approach has yielded good results on strengthening systems and developing tools, indicators, thresholds and approaches tailored to the peculiar livelihoods and demography of informal settlements. Such initiative should be integrated into stakeholder actions and policy frameworks in order to safeguard the lives and livelihoods of residents of the informal settlements and support progress towards achievement

of SDGs and Vision 2030. The current state of affairs in monitoring the slum crises may not be sustainable as it is donor aided with little resources from NCCG and national government to sustain this important work. The role of private sector in urban food supply chain [23] (Figure 1) has also not been fully exploited although it plays an important role in urban food security system and building resilience.

## Recommendations

**Think and Act Ahead of the Needs of Rapidly Growing Urban Populations:** Whereas there is strong interdependency between rural and urban areas, the urban food security system merits distinctive greater attention from governments, private sector and donors due to rapid urbanization. There is need to strengthen policies and strategies supporting urban food system that address the growing problem of food insecurity in informal settlements. This shall involve reviewing the NCCG disaster Act and other Urban Agricultural Policies in the city counties of Mombasa, Nairobi and Kisumu to comply with the 10 % agriculture budget requirement which currently stands at about 6 % to support urban food security. Experiences and lessons learnt from many years of drought response in the ASALs reveal a slow and sometimes unacceptable delay in timely response to emergencies as a result of slow mobilization of aid and inefficient mechanisms.

**Promote a Strong DRM Coordination Mechanism, Strategies and Policy Frameworks as key to Enhancing Early Response to Urban Emergencies:** A robust coordination mechanisms and institutional arrangements that is well resourced and working collaboratively with various stakeholders in all the city counties is critical in managing slow onset emergencies. In addition, there is need to develop a relevant policy and plans to operationalize NCCG Emergency and Disaster Act as rightly pointed out in Part III of the Bill in Article 8. The disaster Act should be reviewed to firmly integrate food security issues, EWA mechanism, reinforce coordination arrangements and clarify the roles and responsibilities of the many actors.

**Support Periodic Monitoring, Information Management and EWS to Enhance Early Response Mechanisms in Urban Areas:** There is urgent need to adopt a tested and credible early action framework to guide early response to slow onset humanitarian crisis in urban areas especially slums modeled on the initiatives being spearheaded by CONCERN Worldwide under the START consortium. These mechanism need to be integrated into the city counties planning and budgeting processes to ensure it is fully embedded in county business processes.

**Adapt Tools and Approaches from UEWEA Project to Strengthen Urban EWEA Systems:** During emergencies humanitarian agencies have often focused rural areas leading to well established tools and systems for monitoring rural crises. Adoption of UEWEA tools and approaches by the stakeholders through an aggressive campaign is essential. However, these tools require further refinement and testing through the research process which calls for continued support from the donor and increased commitment from the both national and county governments.

**Mobilize Financial Resources to Strengthen Urban Food Security Systems Including Monitoring of Risks:** Adequate financial resources and human capacity is needed to periodically collect, analyze and forecast early warning information for prompt action before the crisis turns into an emergency. The city counties of Mombasa, Nairobi and Kisumu should create a specific budget line for this important activity which should be clearly spelt out in the Act and NCCG budget.

**Building Resilience and Poverty Reduction Initiatives is Key to Sustainability of Urban Areas:** Urban emergencies are a serious setback to progress in attaining Vision 2030 and SDGS including Sendai Framework of Action and regional initiatives. Climate change is expected to escalate the impacts slow onset emergencies of the urban poor. It is essential for the county and national governments supported by the private sector and the vibrant civil society to invest long term resilience building efforts which are more cost effective compared to humanitarian actions.

## References

- (2015) UN-Habitat Support to Sustainable Human Development in Kenya-Vol 4. Report on capacity building for local leaders, UN-Habitat.
- (2010) State of the World's Cities: Bridging the Urban Divide, UN-Habitat, Nairobi.
- (2015) Kenya inside Informality: Poverty, Jobs, Housing and Services in Nairobi's slums. The worlds bank.
- (2015) Concern 2015: Indicator Development for the surveillance Urban Emergencies (IDSUE) Annual Project.
- (2008) State of the World's Cities: Harmonious Cities, UN-Habitat, Nairobi.
- Dan Hanfling, John Hick, Clare Stroud (2013) Crisis Standards of Care: A Toolkit for indicators and Triggers. Institute of Medicine, National Academy of Sciences, USA.
- (2008) State of the World's Cities: Harmonious Cities, UN-Habitat, Nairobi.
- Teng P, Gaballero-Anthony M, Escaler M, Hangzo PK (2014) Ensuring food security in the ASEAN. Food security Expert meeting, Singapore.
- Teng P, Gaballero-Anthony M, Escaler M, Hangzo PK (2014) Ensuring food security in the ASEAN. Food security Expert meeting, Singapore.
- Teng P, Gaballero-Anthony M, Escaler M, Hangzo PK (2010) Ensuring food security in the ASEAN. Food security Expert meeting.
- (2015) Concern ISDUE Project 2015: Indicator Development for surveillance of urban emergencies (IDSUE)
- (2009) According to UNISDR, 2009 a people-centred EWS has four elements: Knowledge of the risks; analysis and forecasting of the hazards; communication of the alerts and warnings and local capacities to respond to the warnings
- (2009) UNISDR Terminology in Disaster Risk Reduction (DRR), Geneva.
- (2015) Concern 2015: IDSUE Annual Project Report, Nairobi Kenya.
- The objectives of the project are, too; (i) determine the indicators for early detection of humanitarian emergency situations and coping strategies; (ii) develop surveillance systems for early detection of early warning signs of humanitarian emergencies and to (iii) identify thresholds/cutoffs/decision algorithms for defining when a situation has reached an emergency level. Working in six informal settlements in Nairobi, the project used dietary diversity, household food insecurity and dietary scale, use of street foods and number of meals per day as indicators for food insecurity.

16. [www.nepad.org/download/file](http://www.nepad.org/download/file)
17. <http://www.itacaddis.org>
18. [www.africariskcapacityorg/](http://www.africariskcapacityorg/)
19. (2012) Save The Children 2012
20. (2012) Africa Union 2012: Africa Risk Capacity: ARC response to the Cost-Benefit Analysis of the Africa Risk Capacity
21. (2012) Courtenay Cabot Venton, Catherine Fitzgibbon, Tenna Shiterek, Lorraine Coulter, Olivia Dooley, 2012: The Economics of Early Response and Disaster Resilience: Lessons from Kenya and Ethiopia, DFID
22. Africa Risk Capacity: The cost of drought in Africa
23. Actors in urban food supply chain include farm input suppliers, manufactures, growers, transporters, processors, distributors and consumers have not fully invested in urban agriculture and other resilience building actions



**Assets of Publishing with us**

- Global archiving of articles
- Immediate, unrestricted online access
- Rigorous Peer Review Process
- Authors Retain Copyrights
- Unique DOI for all articles

<http://biomedres.us/>