

# IN MY BACKYARD?



**“YES”**



**MAYBE**



**NOT**

**The Economics of Refugees  
and Their Social Dynamics in  
Kakuma, Kenya**



**“Yes” In My Backyard?**



# “Yes” In My Backyard?

The Economics of Refugees  
and Their Social Dynamics in  
Kakuma, Kenya



**WORLD BANK GROUP**



**UNHCR**  
The UN Refugee Agency

Report No: AUS14056

Republic of Kenya

“Yes” In My Backyard? The Economics of Refugees and Their Social Dynamics in Kakuma, Kenya

GMF07  
AFRICA

**Standard Disclaimer:**

This volume is a product of the staff of the International Bank for Reconstruction and Development/ The World Bank. The findings, interpretations, and conclusions expressed in this paper do not necessarily reflect the views of the Executive Directors of The World Bank or the governments they represent. The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

**Copyright Statement:**

The material in this publication is copyrighted. Copying and/or transmitting portions or all of this work without permission may be a violation of applicable law. The International Bank for Reconstruction and Development/ The World Bank encourages dissemination of its work and will normally grant permission to reproduce portions of the work promptly.

For permission to photocopy or reprint any part of this work, please send a request with complete information to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, USA, telephone 978-750-8400, fax 978-750-4470, <http://www.copyright.com/>.

All other queries on rights and licenses, including subsidiary rights, should be addressed to the Office of the Publisher, The World Bank, 1818 H Street NW, Washington, DC 20433, USA, fax 202-522-2422, e-mail [pubrights@worldbank.org](mailto:pubrights@worldbank.org).

## Recognition

---

**T**his report, a joint undertaking of the World Bank and the UN’s refugee agency (UNHCR), was written by a team led by Apurva Sanghi (Lead Economist and task team leader), Harun Onder (Senior Economist), and Varalakshmi Vemuru (Senior Social Development Specialist). It synthesizes two main background studies, one being an economic impact analysis led by Harun Onder, and the other a social impact analysis led by Varalakshmi Vemuru. Contributors to the background (and other accompanying) papers include Jennifer Alix-Garcia, Erhan Artuc, Anne Bartlett, Nazanin Behzadan, Richard Asher Chisik, Rieti Gengo, Lee Getter, Francis Gichuki, Mark Golitko, Camille Hennion, Samhita Kumar, Aaditya Mattoo, David Mayom, Teresia Katindi Njonjo, Rahul Oka, Tom Opiyo, Verena Phipps-Ebeler, Margarita Puerto Gomez, and Sarah Walker.

For overall guidance and support we are grateful to Betty Bigombe, Diarietou Gaye, Marcelo Giugale, Carlos Felipe Jaramillo, Saroj Kumar Jha, and Raouf Mazou.

For spirited and constructive criticism, we are indebted to our peer reviewers, including Theresa Beltramo, Alexander Betts, Chris Blattman, Eric Le Borgne, Michel Botzung, Colin Bruce, Shanta Devarajan, Xavier Devictor, Quy-Toan Do, Alan Gelb, Caglar Ozden, Nadia Piffaretti, and Susan Wong. Insightful comments were also provided by Yonatan Araya, John Wagacha Burton, Kevin Carey, Kanthan Shankar, Thomas O’Brien and Albert Zeufack. Numerous stakeholder consultations and workshops in Lodwar, Nairobi, and Washington DC have also informed our findings.

We gratefully acknowledge funding from the Global Program on Forced Displacement, and in particular, the support of Caroline Bahnson, Xavier Devictor, and Niels Harild. Angelina Musera provided excellent logistical and administrative assistance, and Farah Manji, superb editorial support.

We also gratefully acknowledge funding support from the Kellogg Institute for International Studies and the Institute for Scholarship in the Liberal Arts at the University of Notre Dame, Indiana, for funding the psychosocial impact assessment component of the social impact analysis.

A special note of thanks goes to Yonatan Araya, John Wagacha Burton, Raouf Mazou and all UNHCR colleagues who facilitated and coordinated often difficult field trips in Turkana. Without their invaluable logistical and coordination support, which remains invisible in this written format, this report could not have come to fruition.

Finally, we would like to recognize that the report, which brings together an inter-disciplinary team, lays great emphasis on local knowledge, and we have deeply tapped into local expertise. Among our contributors, we have one of the ‘lost boys of Sudan’ and an anthropologist who has been conducting ethnographic research in and around Kakuma since 2008, including go-along interviews with the Turkana in their homes and villages to the extent of following a traditional *morán* cattle-raiding near Lokichoggio.

# A READER'S GUIDE

---

<b>1. Why This Report?</b> The Need to Go from Assumption to Evidence	1
<b>2. A Refugee Camp</b> At The Intersection of Turkana's - and Kenya's - Development	5
<b>3. Assessing Impact: Methods</b>	15
<b>4. Assessing Impact: Results in 3D</b>	25
<b>5. "What if?":</b> From Encampment to Decampment	45
<b>6. The Three Takeaways</b>	53
<b>Appendices</b>	57
<b>List of References</b>	63



## A brief note on the structure of the report

---

**W**e deliberately do not have an executive summary. Instead, we have book-ended the report by an introductory section and a concluding one, which provide the reader the three takeaways of this report. In between, we invite the reader to discover more about how we conducted the analyses, engage with its results, and contemplate the various integration scenarios. We also encourage readers interested in more technical information and detail to refer to the background economic and social impact studies and accompanying papers.

## List of Figures

---

1	Location of Kakuma refugee camp	3
2	Map showing Turkana County, Kenya	6
3	Layout of Kakuma refugee camp	9
4	Population of Kakuma refugee camp through the years, peaking at close to 200,000 in 2016	10
5	Narratives shaping the Turkana host communities' interactions with, and perceptions of refugees	12
6	Total impact is the sum of market and non-market impacts	16
7	Per capita consumption falls with distance from Kakuma refugee camp	28
8(a)(b)	The fastest growing districts are in the center of Turkana County	30
9	Livestock holdings increase with distance from Kakuma refugee camp	31
10	Proportion of host community reporting negative (non-violent) refugee impacts	36
11	Proportion of host community reporting refugee violence or mistreatment	36
12	Proportion of host community reporting positive refugee impacts	37
13	Trends in positive and negative perceptions of refugees among the Turkana of Kakuma, Lorengo, Lokichoggio, Lodwar, and Lorugum	38
14	Total number of "worries" across locations in Turkana	42
15	"Worries" among the host community in Kakuma, disaggregated by gender and age	43
16	The effects of alternative integration policies on real wages and incomes in Turkana	50

## List of Tables

---

1	Macroeconomic effects of refugee arrivals (encampment simulation results) suggest the refugee presence has a beneficial impact on Turkana's economy	26
2	Incomes and assets fall in value with distance from Kakuma refugee camp	28
3	Increases in refugees and aid are correlated with increased livestock prices	33
4	Kakuma refugee camp has a small but positive effect on farming	34
5	Comparison of housing statistics between Kakuma and counterfactual towns	35
6	Average BMI of host community members is higher in Kakuma and Lorugum than at Lorengo or Lokichoggio	39
7	Average host community SSF measurements are higher at Kakuma and Lorugum, suggesting residents have greater access to nutritional security and health	40
8	Macroeconomic effects on Turkana under the three scenarios; the full economic integration scenario is the most favorable	47
9	Macroeconomic effects on Kenya under the three scenarios	48

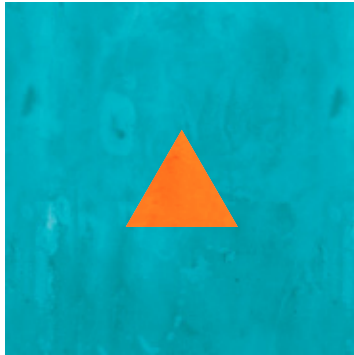
<b>10</b>	There is significant heterogeneity within the host community in terms of consumption and assets	57
<b>11</b>	The Patterns of livestock economy: Kakuma vs. other towns	59
<b>12</b>	Macroeconomic effects under the Limited Integration Scenario (LIS) are mostly favorable	60
<b>13</b>	Macroeconomic effects under the Full Integration Scenario (FIS) are even more favorable	61
<b>14</b>	Macroeconomic effects under the Decampment Scenario (DS) are not favorable	62

## List of Boxes

---

<b>1</b>	Selection of counterfactual towns	19
<b>2</b>	External sources of data	20
<b>3</b>	Simulations and empirics	21
<b>4</b>	Ethnographic research themes	23





# 1. Why This Report?

## The Need to Go from Assumption to Evidence

---

### I. Refugees are in the headlines now, but they've been on Kenya's agenda for decades

**T**his report comes at a crucial time when the unprecedented global refugee crisis, most notably in Europe and the Mediterranean, has not only focused the world's attention on the plight of refugees, but has also led to the politicization of refugee influxes. With an average of 24 people worldwide being displaced from their homes every minute of every day (UNHCR 2016), the debate surrounding the refugee crises is on the minds of many, ranging from governments and policy-makers to citizens, refugees, and host communities alike.

Worldwide displacement is currently at an all-time high as war and persecution increase; one in every 113 people is now either a refugee, internally displaced, or seeking asylum (UNHCR 2016). In the past five years, at least 15 conflicts have erupted or reignited, and while protracted and harrowing wars have broken out in the Middle East, eight of these conflicts have been in Africa (Côte d'Ivoire, Central African Republic, Libya, Mali, Northeastern Nigeria, Democratic Republic of Congo, South Sudan, and Burundi) (UNHCR 2015). To compound matters, developing countries such as Lebanon, Jordan, Ethiopia, and Kenya are now hosting the largest share of refugees: they are home to nearly 90 percent of the world's refugees (UNHCR 2016). The strain on resources and the pressure on governments is becoming increasingly visible; the Government of Kenya (GoK) recently announced plans to close down its largest refugee camp in Dadaab, home to nearly 350,000 refugees, while Turkey, the country hosting the largest number of refugees worldwide (2.5 million), struck a controversial 'one in, one out' deal with the EU, the terms of which stipulate that for every Syrian returned to Turkey from Greece, a vetted Syrian refugee in Turkey will be resettled in the EU.

There have been several studies on refugee economies, specifically focusing on the various ways in which refugees adapt to and (often) even thrive post-displace-

ment (Jacobsen 1996, 2002, 2005; Lischer 2005; Werker 2007), and use the economies to build lives of relative normalcy and dignity in protracted situations (Oka 2011a, 2014). However, as refugee camps and settlements are often built in locations where local host communities are more impoverished and marginalized than the refugees themselves, the perceived disparities in relief distribution and access to resources and built infrastructures creates tension and even violence between the two groups (Aukot 2003). On the other hand, the vibrant refugee economies create opportunities and bring in skills, capital, and connectivity to global economies, often filling (albeit imperfectly) the unmet needs and development for the host community (Betts 2014; Jacobsen 2005). This is why it becomes all the more pertinent to understand the economic and social impact of refugees on host communities and the importance of linking peace efforts with economic progress. Prior to the recent World Humanitarian Summit in Istanbul, the UN Secretary General had voiced the need for a more equitable approach to sharing the burden of refugees with host countries, and even earlier, in 2014, the World Bank Group and the UN jointly announced a major Horn of Africa Initiative geared towards creating economic opportunity for the region's most vulnerable people, especially refugees and internally displaced populations, and their host communities.

This report, which provides an original analysis of the economic and social impact of refugees in Kenya's Kakuma refugee camp on their Turkana hosts, therefore comes at an opportune time and could resonate with governments and policy makers beyond Kenya's borders. In particular, the methodology we have developed enables us to run policy scenarios in a rigorous manner, ranging from encampment to decampment (i.e. camp closure) scenarios, and the potential to apply this methodology in other refugee situations around the world is particularly advantageous.

## II. The case of Kakuma refugee camp in Kenya: "Yes in my backyard?"

Despite their economic promise and resilience, countries like Kenya are becoming the unintended "shock absorbers" for the growing conflict, insecurity, and weak governance in neighboring countries (World Bank and UNHCR 2015). Kenya is the second largest refugee-hosting country in Africa (after Ethiopia). Of the more than half a million registered refugees hosted by Kenya, 32 percent are housed in the Kakuma refugee camp, 57 percent in the Dadaab refugee settlement, and 11 percent live in Nairobi (UNHCR 2016).

Kakuma refugee camp, located in Kenya's northwestern Turkana County and at the crossroads of Ethiopia, South Sudan, and Uganda, is home to 190,822 refugees, with South Sudanese making up the majority (52 percent) of the camp's population.

The camp is also home to refugees from Somalia, Ethiopia, Burundi, Rwanda, and the Democratic Republic of Congo. Since its establishment in 1992, Kakuma has hosted one of the longest-lasting refugee camps in the world, and refugees have been an integral part of Kakuma's social, cultural, and economic fabric. Our analyses thereby offer pertinent insights for the Middle East and North Africa (MENA) region, where countries such as Lebanon, Jordan, and Turkey are grappling with the absorption of hundreds of thousands of refugees in a myriad of ways and with differing levels of success.<sup>1</sup> Given that Turkana represents an 'end state,' whereby it has had

---

<sup>1</sup> Only 10 percent of the over four million registered Syrian refugees in the MENA region are living in refugee camps (UNHCR 2016).

**Figure 1: Location of Kakuma refugee camp**

Source: Food and Agriculture Organization of the United Nations, 2013

years to adjust to the refugee presence, this presents an advantage to the MENA region and other countries who, in their ‘initial state,’ find the costs associated with hosting refugees to be much higher. Thus, there is a real opportunity to make decisions based on evidence and to pave the way for a shift in the conventional thinking on refugees and the best pathways of absorption.

One striking observation about Kakuma refugee camp is how vibrant the economy is and how refugee-owned businesses also serve host communities. According to UNHCR, when there was talk about closing Kakuma in the early 2000s, there was an uproar among the host community, who saw the camp as their main source of employment, business opportunities, and commercial goods. The decision to move thousands of refugees from Dadaab to Kakuma in 2009 came as a relief to some. This is in sharp contrast to dominant perceptions of “Not in my backyard” or the “NIMBY” phenomena that is typically associated with hosting refugees.<sup>2</sup> Moreover, the interaction is not just economic; it is also social and cultural, including intermarriages between the host and refugee communities (Sanghi 2015). Yet empirical evidence has been lacking so far.

### III. Beyond rhetoric: The need for an evidence-based approach

Thus, in order to capitalize on these rich and diverse economic and social interactions for the betterment of both the host and refugee communities, and in light of the growing politicization of refugee matters, assessing the impact of refugees is crucial (Jacobsen 2002; 2005). This is easier said than done, especially given the blurring of lines between humanitarian and development assistance in Kakuma, and in refugee camps more generally, where humanitarian aid is being used to make development investments such as building schools and hospitals at the periphery of the camp and in the host community. In addition, there has been an absence of a rigorous and cred-

<sup>2</sup> NIMBY is widely defined in the economic literature as the objection by locals to the siting of something they regard as detrimental or hazardous in their neighborhood.

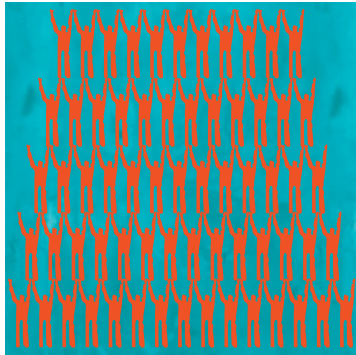
ible methodology that assesses the impact – both economic and social – of refugees. Refugee economies<sup>3</sup> are under-researched and poorly understood (Betts et al. 2014), and as noted in the World Bank’s report on Forced Displacement and Mixed Migration in the Horn of Africa, “While there have been a variety of descriptive studies about the interactions between refugees, the aid community, and hosts in the vicinity of Kakuma camp, these have not yet been able to provide estimates of the net benefits to locals of the presence of refugees and aid.” (World Bank and UNHCR 2015). Therefore, with plenty of original analytical and empirical analyses, this report, conducted jointly by the World Bank and UNHCR, attempts to address this pressing need. It aims to strengthen the evidence-base so that policy makers, and humanitarian and development actors can make informed decisions about how best to transform refugee camps such as Kakuma into self-sustaining settlements, and how to design win-win deals that benefit both refugee and host populations. But advocates and those seeking “killer stats” one way or the other should be forewarned. This report is not intended to be an advocacy piece, and we have gone to where the evidence has led us. The overall impact of refugees in Kakuma is positive, but there are segments of the host population and parts of the economy that do not benefit from the refugee presence.

Any discussion surrounding the impact of Kakuma refugees on Turkana cannot be isolated from the broader historical, social, and cultural context of Turkana’s place in Kenya’s development story, and this discussion becomes the main focus of the next chapter.

---

<sup>3</sup> ‘Refugee economies’ is broadly defined as the resource allocation systems relating to a displaced population. The concept is intended to be holistic in attempting to look at ways in which refugees’ economic activities are not simply reducible to livelihoods but are part of a wider system involving consumption, production, exchange, and finance (Betts et al. 2014).





## 2. A Refugee Camp

### At The Intersection of Turkana's - and Kenya's - Development

---

#### I. The lost boys and the dawn of man

In 1991, some 10,000 Sudanese boys walked into Northern Kenya. Having first fled civil war in southern Sudan, undertaking a treacherous journey to Ethiopia, war once again forced them to seek refuge elsewhere; they had walked more than a thousand miles before reaching Kenya, and Kakuma refugee camp would become their new home. Located in one of Kenya's most remote areas, Kakuma refugee camp has today become the largest settlement in Turkana County, housing close to 200,000 refugees, almost 15 percent of the county's population.

Known as the cradle of mankind,<sup>4</sup> and today home to the Turkana people and other smaller ethnic groups who live off the land and whose traditional livelihoods are nomadic pastoralism, Turkana County is sparsely populated. Though its population has grown dramatically in the last two decades, increasing from 855,393 people in 2009 to 1,256,152 in 2015 (Human Rights Watch 2015), for the Turkana people living in Kakuma, hosting a refugee population larger than their own in a terrain that is often punishing and a region that is poor, has brought about its share of challenges, but also opportunities. Although the dawn of man occurred over three million years ago in the Turkana region,<sup>5</sup> it has not exactly remained a beacon of economic growth or technology development. Turkana County, the largest county in Kenya, is also one of the country's most impoverished and marginalized areas, where literacy rates are among the lowest and poverty rates, at over 90 percent, the highest (Sanghi and Onder, 2016). It also has a long history of chronic malnutrition and some of the poorest health indicators in Kenya (Human Rights Watch 2015). However, the wind of

---

<sup>4</sup> As noted by Richard Leakey, "Nobody knows where we are going, but everyone should be aware of where we came from: Turkana."

<sup>5</sup> The earliest use of Stone Age tools is now considered to be near the shores of Lake Turkana in Northwest Kenya. (See Sonia Harmand et al. "3.3-million-year-old stone tools from Lomekwi 3, West Turkana, Kenya." *Nature* 521: 310–315, (21 May 2015).

**Figure 2:** Map showing Turkana County, Kenya



Source: Human Rights Watch, 2015

change appears to be blowing; apart from dealing with the influx of more than 100,000 people into Kakuma in the past five years, the Turkana community is also dealing with recent changes in governance infrastructure, including devolution, and the discovery of oil and fresh water aquifers.<sup>6</sup>

Turkana County, whose capital is Lodwar, is located in a difficult neighborhood (Figure 2). The county is bordered by Uganda, South Sudan, and Ethiopia. The northern part of Kenya, including Turkana, has suffered from increasingly severe droughts lasting for years. Combined with the lack of public infrastructure and services, these droughts grow into famines with high mortality of both humans and livestock. The shortage of proper infrastructure also pushes up transportation fares, and high transportation costs are reflected in commodity prices.<sup>7</sup> Matteis (2010) found that the price differentials between source markets and Turkana County's furthest main market,

<sup>6</sup> Because it is poor, Turkana gets the second-highest budgetary allocation among the 47 created counties.

<sup>7</sup> The national road density is about 3.4 times higher than Turkana's.

Lokichoggio, was around 40-50 percent with peaks of up to 80 percent in the case of some commodities such as beans (De Matteis, 2010).

However, there is increasing attention on Turkana, primarily driven by relief and development efforts. In addition, the discovery of oil reserves could generate future revenue to build the county’s physical infrastructure, as well as health and education sectors, if these revenues are managed well and shared with the community and county government. This cautious optimism is echoed in the quote below from a host community respondent:

“If devolution really gives money to the county and the county uses the money well, that would be good for Turkana. And for the educated and non-educated Turkana alike, there will be jobs from the oil project and the water. Like it was at Lokichoggio. When the UN mission was there, Loki was a good place, with jobs and growth. So it can be good, as long as those things, like devolution, like the oil companies, they stay and treat the Turkana as partners, they see as the people who own the land but are generously sharing so should be cared for” (Interviewed in Kakuma, June 2015).

Given these changes, Kakuma refugee camp has a significant role in the projected socio-economic development of Turkana. However, this role must be developed with the understanding that the Turkana continue to retain their memories of exclusion and histories of marginalization that if not accounted for, will hamper any intervention through lack of support, overt discouragement, and even violence.

One may rightly ask, what are these memories of exclusion and histories of marginalization?

## II. Naenda Kenya (“I am going to Kenya”)

The expansion of the British colonial administration towards Turkana after 1895 and their military pacification had a significant impact on the Turkana people and the region. The outcomes of the British-Turkana interactions included livestock depletion, intensification of pastoralism as the primary and often only subsistence activity deemed fit for the Turkana, a decline in the status of women’s activities such as agriculture, and an erosion of trade networks, leaving the Turkana overly dependent on external aid/development or pastoralism. Livestock raiding, which has come to characterize the Turkana and feeds into the increased warrior culture, became a normative institution after the colonial encounter, as did the incipient violence between the Turkana and their neighbors.

The forced resettlement of the Turkana into small villages, transhumance, and the supervision policies, which continued after the British and included mandatory police registration from those who traveled (Simpson 1995), destabilized pastoral movement pathways and forced the Turkana to become increasingly dependent on externally obtained resources over which they had no control. From this exclusion arises the expression and narrative of *Naenda Kenya*, “I am going to Kenya”, used by Turkana people when they go to other parts of Kenya.

It is also noteworthy that Turkana, with its reputation as an isolated outpost, removed from the rest of Kenya, was where Jomo Kenyatta, Kenya’s first president, was imprisoned and detained by the colonial government in the late 1950s.

### III. Fleeing war and finding refuge in Turkana

In 1992, following talks with the GoK and local leaders and elders of the Turkana community, UNHCR formally established a refugee camp in Kakuma in order to accommodate people fleeing the conflict in Sudan. Kakuma, meaning the 'place of the giant tortoise', was a former watering hole and communal meeting ground for the Turkana pastoralists during the wet season. The Sudanese 'lost boys' were initially housed in a temporary camp located closer to the Sudanese border in the town of Lokichoggio. Their arrival, combined with a large inflow of Somali refugees into Eastern Kenya, caused a significant shift in the GoK's refugee policy; it marked the beginning of the encampment policy where, following status determination, refugees are obliged to reside in a camp with their movement outside the camps being heavily restricted.<sup>8</sup> According to Werker (2007), camp economies are influenced by host-country policies, such as restrictions on refugees' movement and work, as well as by the physical and economic isolation of the site, and such policies have important implications:

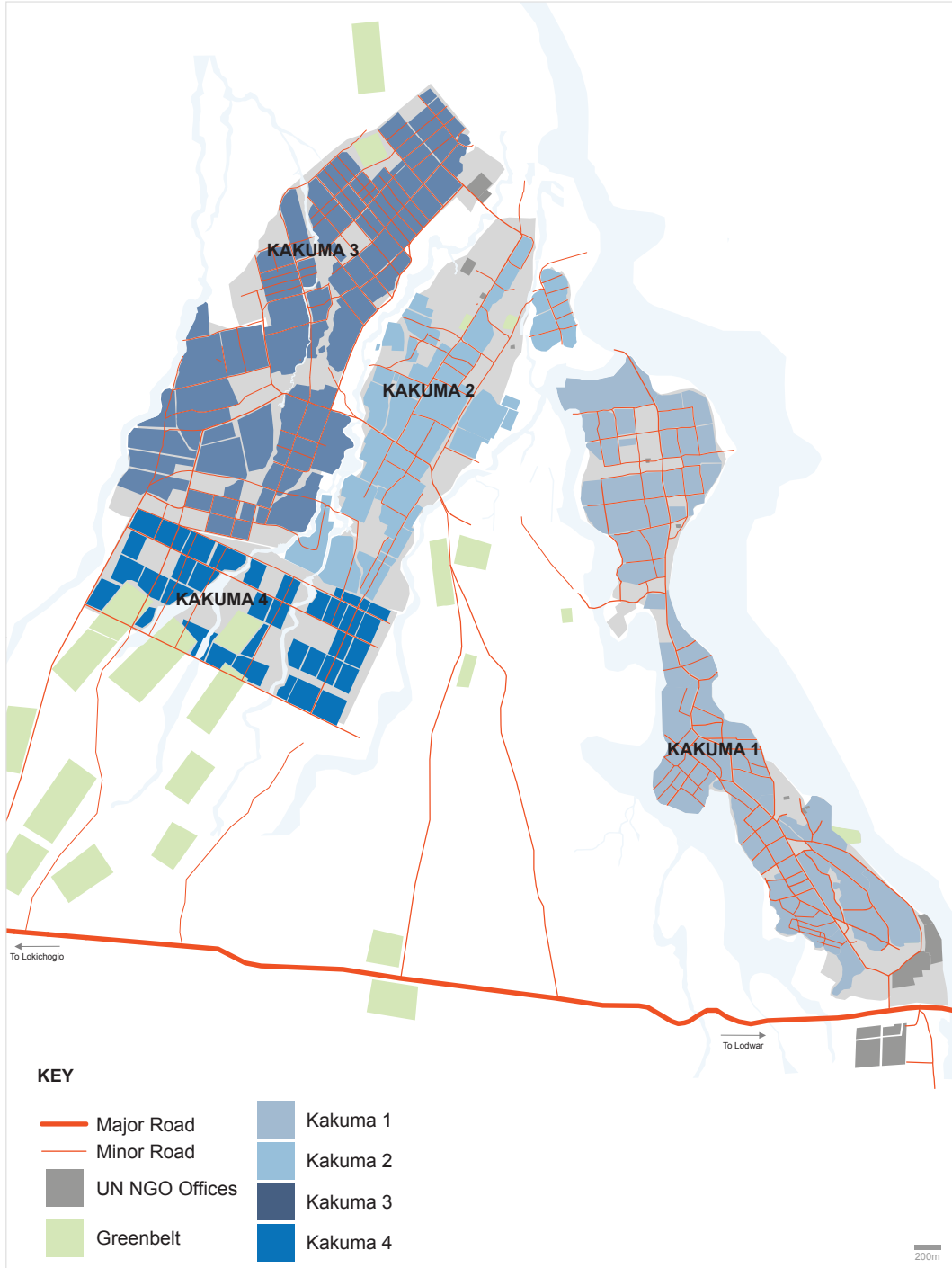
“Restrictions on employment outside the camp have obvious effects on refugees living in the camps. First, refugees are excluded from legitimate labor markets outside the camps, just as illegal immigrants in an industrialized nation are excluded from many jobs. Related to this, refugees who remain in the camp labor market may have a difficult time matching their skills to labor demand. In terms of restrictions on movement, refugees engaged in productive activities will have reduced access to outside markets, which may affect the effective price they receive for their labor inside the camp.” (Werker 2007)

In its current position, Kakuma refugee camp, located some 123 kilometers northwest of Lodwar, is more of a city than a camp, comprising of corrugated iron sheet houses with mud/timber walls in four sub-camps as seen in Figure 3 (page 9): Kakuma 1 (the oldest and most densely populated), Kakuma 2, Kakuma 3, and Kakuma 4 (the newest and sparsely populated). The population density within the camp is estimated at between 12,000 – 13,000 persons per square kilometer, which is about 1,000 times that of the host Turkana community. Despite having its own bottlenecks, the camp surpasses the rest of the Turkana region in access to education, medical services, potable water, and roads. The camp is also better connected with major markets than most other regions in Turkana, which reflects the size of the market, intensive aid operations, and not relying on the short-supplied transportation business in Turkana.

Originally built for a population of around 80,000 Sudanese refugees, the camp's population has fluctuated between 35,000 from its establishment to 80,000 in 2009

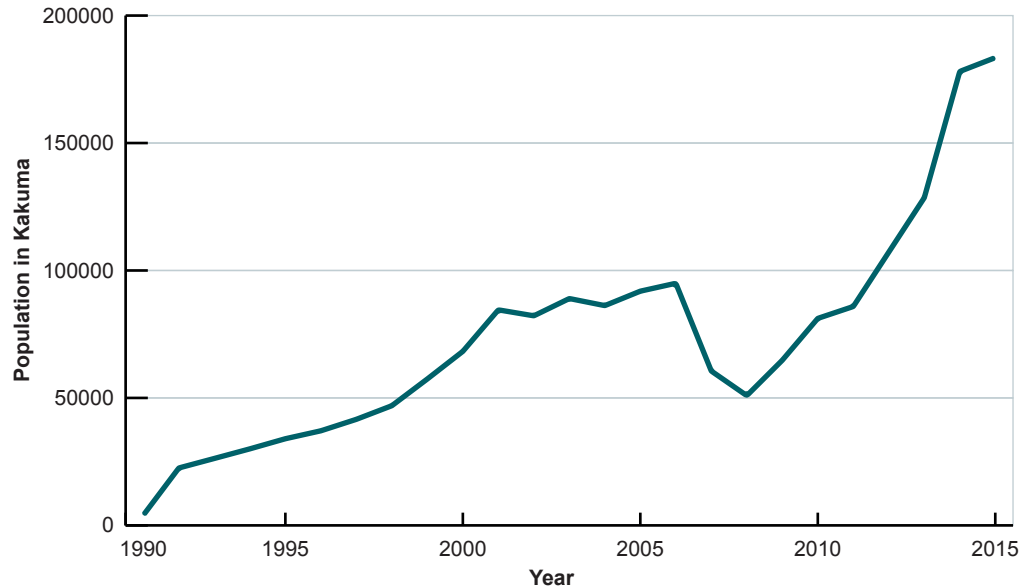
<sup>8</sup> According to Human Rights Watch, Kenya hosted 14,400 refugees in 1990, but as a result of the increase in regional conflicts, the number had risen to 120,000 by 1991, and just one year later, 401,000 refugees were living in Kenya. The large numbers caused Kenya to ask UNHCR to set up refugee camps and this approach scrapped aspects of Kenya's pre-1991 refugee policy, including, for example, the laissez-faire approach by which refugees were allowed to locally integrate, and enjoy rights to work, education and freedom of movement. In addition, the Kenyan government's pre-1991 role in refugee status determination was surrendered to UNHCR. (Human Rights Watch 2002)

**Figure 3: Layout of Kakuma refugee camp**



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations  
Source: UNHCR, NCCK

**Figure 4: Population of Kakuma refugee camp through the years, peaking at close to 200,000 in 2016**



and close to 200,000 in 2016 (Figure 4), taking in additional people fleeing conflicts from Burundi, Congo, Rwanda, Ethiopia, Eritrea, and Uganda. In 1997, after the destruction and closing of the Utange camp in Kenya's coastal region, Kakuma received a large in-flow of Somali refugees, who today make up the second largest group of refugees in Kakuma.<sup>9</sup>

Within less than a year from the establishment of the camp, numerous Ethiopian, Somali, and some Sudanese refugees had set up retail shops, restaurants, and barber shops in the camp, offering refugees and Turkana alike goods and services at retail prices. They imported these mainly from the three Somali firms in Kakuma Town, who had by then established reliable supply lines with suppliers in Kitale, Eldoret, Nakuru, Nairobi, and Mombasa.

After the signing of the Comprehensive Peace Agreement (CPA) in 2005, more than 40,000 Sudanese refugees were repatriated to various areas in present-day South Sudan, and the population of Kakuma suddenly dropped to 45,000, depressing local businesses and leaving behind abandoned broken homesteads. However, the population of Kakuma rebounded due to the continuing violence and lack of infrastructure in South Sudan between 2010 and 2011; this resulted in a reverse flow of refugees back into Kenya and into Kakuma (Oka 2014). More recently, in December 2013, South Sudan erupted into violence, and since then Kakuma has received almost 80,000 South Sudanese refugees, some of whom have taken refuge in Kakuma for the second time.

<sup>9</sup> In the early 1990s, Somali refugees who had entered Kenya from southern Somalia were hosted in four camps in the coastal city of Mombasa. These camps were eventually closed between 1995 and 1997 and their residents were either relocated to Dadaab or Kakuma or repatriated. (Mogire 2013)

The capacity of the various civic, relief, and development organizations are being taxed to the maximum, necessitating changes in the processes by which relief and development services are managed and administered by the GoK, UNHCR, and other organizations. The increased refugee population of Kakuma, combined with the growing population of Kakuma Town, also means that the active interactions and encounters between the refugees and the Turkana hosts will only intensify over time, including both positive and negative.

#### IV. Interactions between the refugees and the ‘survivor’ tribe

Kakuma Town is adjacent to the refugee camp and is the primary residence of the host community, many of whom work in the refugee camp as construction workers, domestic servants, security guards, charcoal/firewood producers/sellers, and livestock producers/sellers and even survival sex workers.<sup>10</sup>

Even prior to 1992, Kakuma was a culturally and economically significant location for the Turkana pastoralists, with a livestock market, primarily controlled by the Somali traders. It also served as a rest-and-fuel stop for truck drivers on the A1 highway linking Kitale in Western Kenya to Juba. The town had restaurants, hotels, garages, petrol stations and general groceries. The large shops and petrol stations were owned and operated by Somali traders, while the smaller establishments were owned by Turkana and Meru traders. The relationship between the few outsiders at Kakuma and the Turkana residents prior to 1991 was built on over three decades of mutually beneficial interactions, in particular with the Somali trading firms established in Kakuma since the 1960s (Oka 2011a; 2014).

The arrival of 35,000 refugees (1992-1993) transformed the socio-economic dynamics of Kakuma Town. By 2000, the town’s population had almost doubled (estimated at around 9,000) as had the camp’s. Along with the increased avenues for consumption of goods and services, and growing cosmopolitanism, the refugee presence also fundamentally altered the livestock herding and consumption system among the Turkana. The flood of food aid through Oxfam’s North Turkana Drought Relief Programme (1992-1994) led to a decrease in the pressure for slaughtering livestock, which, combined with the high demand for meat among the (relatively) cash rich refugees passing through Lokichoggio to Kakuma, led to an increase in meat prices and the development of an entirely new group of Turkana brokers, the *nimuchurus*.<sup>11</sup> This system left the small producers and herders entirely at the mercy of the brokers, buyers, butchers, and consumers.

The refugees, however, started to provide small jobs to the Turkana that included domestic labor, casual and manual labor, as well as service jobs. UNHCR and the other relief and development organizations also generated jobs in the areas of security, construction, maintenance, transport, and clerical jobs. Apart from direct jobs provided by the refugees of the relief-development complex, the Turkana also found opportunities in supplying other basic necessities to the camp including firewood and charcoal, fencing and housing materials, and occasionally livestock in the form of exchange/trade between an individual Turkana producer and a refugee. While

<sup>10</sup> Survival sex is not a financial transaction; instead, it involves exchanging one's body for basic subsistence needs.

<sup>11</sup> The price of 1kg of meat rose from 6 KES in 1992, to 9 KES in 1993, to 22 KES by 1994 (Bush 1995).

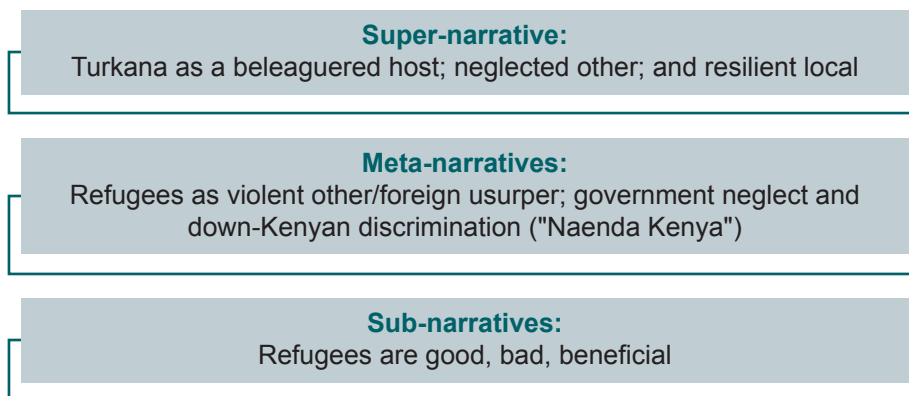
there is no typical refugee camp economy (Werker 2007), examples of similar, vibrant economic interactions between host and refugee communities also abound in other refugee contexts, challenging the myth of refugees as economically isolated and a burden on host countries. For example, a 2014 study examining refugee economies in Uganda found that “refugees often make a positive contribution to the host economy, exemplified by the significant volume of exchange between refugees and Ugandan nationals, as well as by refugees’ creation of employment opportunities for Ugandans. The image of isolated and inwards-looking refugees engaged solely in ‘subsistence farming’ gives way to a more networked reality – one in which refugee farmers are linked to national and even sub-regional supply chains of agricultural production” (Betts et al. 2014).

Along with the economic interactions, the Turkana also engaged with the refugees through friendship and marital alliances, especially with the Sudanese Dinka and Nuer. The engagement with other groups such as the Congolese, Rwandans, Burundians, Somalis and Ethiopians generally fell along the lines of the Turkana as consumers or workers in the shops and homes of the refugees. Ohta (1996, 2001, 2005) suggests that the narratives of conflict and violence between the two groups served to obfuscate the fact that the Turkana and the refugees established complex, mutually beneficial, and enduring relationships between 1992 and 2005.

## V. Through the lens of the Turkana: Narratives that shape the refugee-host relationship

Efforts to understand how the Turkana host community perceive and interact with the refugees need to be understood in the context of Turkana’s recent history, and this requires an appreciation of how this history has shaped its people. Interactions between Turkana and the refugees are therefore largely shaped by narratives and the experiences that emerge during these interactions, as categorized in Figure 5 below.

**Figure 5:** Narratives shaping the Turkana host communities’ interactions with, and perceptions of refugees





The sub-narratives of refugees as “good” (they are our friends, neighbors, helpers), or “bad” (they are violent, exploiters, steal resources), or indeed “beneficial” (in terms of trade, employment, bringing in the UN-NGO presence to Turkana) are often shaped by larger narratives, which are a product of Turkana’s history of marginalization, its vulnerability to climatic changes, and its underdevelopment. For example, the host community’s perceptions of refugees as good or bad people are influenced by the Turkana internalizing feelings about exclusion and discrimination from the overall political system, but they are also conditioned by an enveloping, and often apparent, view of refugees as foreign usurpers of their land and resources and as the violent Other. However, perceptions of host community members who live closer to Kakuma refugee camp and who have frequent interactions with refugees tend to be more nuanced and positive compared to those living in towns further off. The shared themes and interfaces amongst the meta-narratives are linked to form the overarching narrative of Turkana as a county beset by difficulties, but one where its people demonstrate heroic resilience in the face of adversity and neglect.

Our analysis suggests that the refugee and Turkana groups largely coexist in a dynamic landscape wherein distrust, reinforced by numerous narratives and experiences of wrongdoing and aggression, might occasionally explode into violence. However, we also find that such violence and distrust is mitigated by individual and group experiences of cooperation, collaboration, and mutual benefit, largely through the exchange of labor, goods, services, and aided by the presence of the local commercial market. Not only do the narratives of the Turkana of Kakuma show nuance with respect to the complexities of their interactions, they usually shape and are shaped by external factors such as the environment. As a predominantly subsistence pastoral population, the Turkana are extremely concerned with the availability of grazing land and water, as highlighted by the quote from a refugee below.

“When you see a Turkana man like that, sitting there, not doing anything, on his stool, holding his stick, you think, why doesn’t he work? But you know from looking at him that he has lost his herd. That man, there, he is broken. He is broken, because when he lost his herd, his animals, he lost himself...his pride, his status.” (Interviewed in Kakuma, August 2010)<sup>12</sup>

Narratives of suffering as well as resilience in the face of environmental and climatic changes, especially droughts and famines, therefore surface.

These narratives also merge with other narratives about the government and political system. The impact of Kakuma refugees on Turkana and Kenya cannot be isolated from an understanding of these historical grievances, as illustrated in the quote below.

“The economy of this place is completely controlled by refugees. The UNHCR is here for the refugees and also most of the NGOs. Even the GoK cares more for the refugees. Only workers who stay here are teachers, most other officers come from down-Kenya<sup>13</sup> and even they are being supplemented by

<sup>12</sup> Rahul Oka, “Trade, Commerce, and Relief at Kakuma Refugee Camp,” Unpublished Field Notes from the June-August 2010 Season. Department of Anthropology, University of Notre Dame.

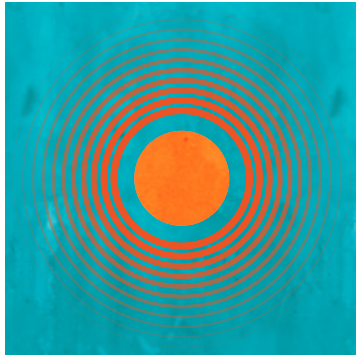
<sup>13</sup> The Turkana use the phrases “down Kenya” and “down Kenyans” to refer to the more developed areas of the country and the better-off groups/communities.

UNHCR. Look at Loki [choggio], it was so busy, and then when the UNHCR left, it has become a White Elephant, so much building, and now nothing.” (Interviewed in Kakuma, June 2015)<sup>14</sup>

The Turkana know that they have been neglected and discriminated against and they have struggled with endemic structural violence stemming from their low position in the Kenyan social, economic, and political hierarchy. This meta-narrative is also shaped by the issues of corruption and graft that adds cynicism and negative outlooks on any intervention where local, regional, or national politicians might play a deciding role.

---

<sup>14</sup> This respondent was interviewed as part of the social assessment of this joint World Bank-UNHCR study.



### 3. Assessing Impact: Methods

---

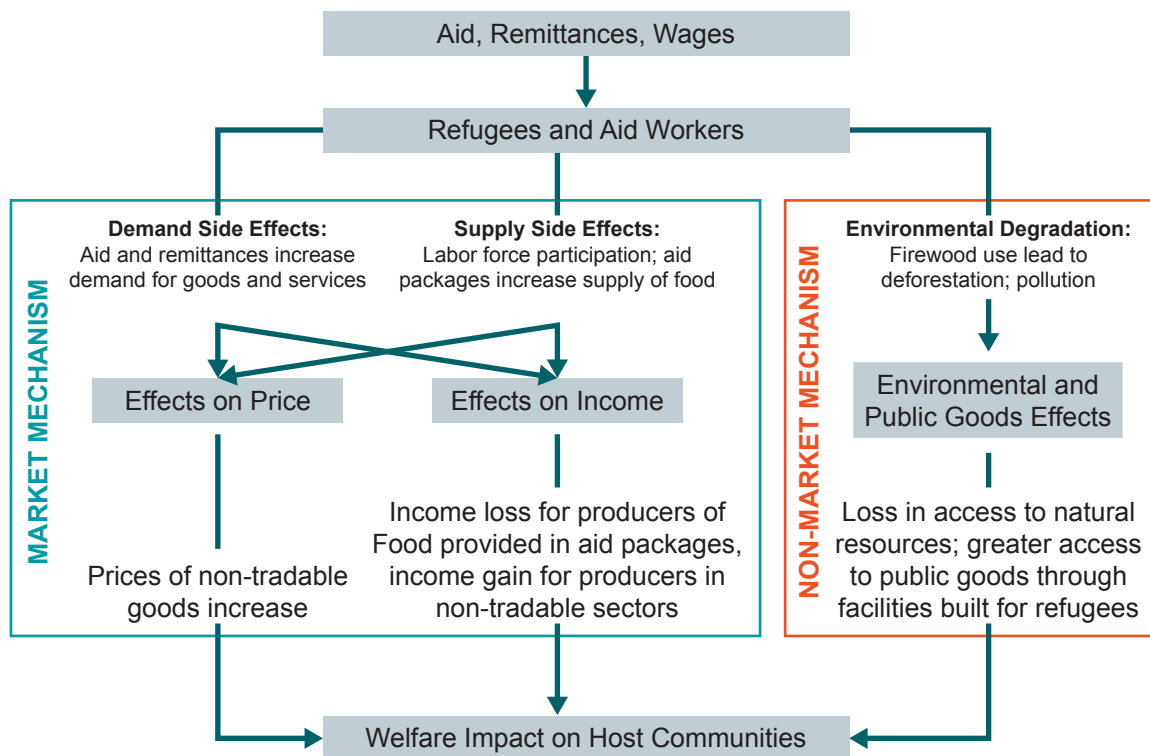
#### I. Impact means different things to different people

**W**hen talking about “impact”, the first question that comes to mind is “impact on what?” For economists, it is the “impact on welfare” which is the ultimate measure. Related is the question of “impact on whom?” Is it an individual’s welfare? The welfare of refugees? Or that of hosts? Or indeed, society’s welfare, which includes both refugees and hosts? In our case, we assess how the presence of refugees has affected the welfare of the Turkana people. However, because welfare includes subjective measures (technically speaking, utility), which are normally not observed in data, we need to rely on more measurable indicators. The cash income of an individual provides a good approximation in this case. Because individuals are heterogeneous (for example, depending on whether they are net buyers or net sellers or how they earn their incomes), the impact at individual levels, naturally, will vary depending on whether the presence of refugees materially increases their purchasing power or affects other non-material aspects of their well-being. Some host community members will benefit, others won’t. The sum effect of these individual welfare changes then gives us a reasonable approximation of “impact”.

Disaggregating the concept of impact, the inflow of refugees generates multidimensional effects. These effects in turn manifest themselves primarily through two mechanisms: market and non-market. Market mechanisms are those that affect welfare of individuals primarily through prices of goods, services, labor, and other factors of production. Non-market mechanisms are those that affect welfare through goods and services for which prices do not exist, such as environmental spillovers from the camp, including land use change and exhaustion of water sources, which may hurt local consumers and producers alike. They could also include subtle changes in social, cultural, and security aspects as well. Figure 6 outlines the numerous channels of transmission of refugee presence on the host community.

Both market and non-market mechanisms are challenging to assess in a comprehensive, rigorous, and analytical manner, and even more so in data-poor economies.

**Figure 6: Total impact is the sum of market and non-market impacts**



Moreover, the short-term impact (with fixed factors of production such as land and labor) could be different than the long-term ones, which renders static analyses questionable.<sup>15</sup> Thus, any attempts to assess the impact of refugees on host community welfare need to devote a substantial amount of effort to developing the most relevant analytical strategy in the specific set of constraints provided by the case.

The rest of this chapter lays out the methods we developed on both the market and non-market fronts, including caveats, nuances, and subtleties. To those who may not read beyond this section, the upshot is we assess market-based welfare changes (the “economic assessment”) through developing a multi-sector general equilibrium model and an empirical approach that focuses on channels of transmission and the aggregate impact by using a carefully constructed, albeit, imperfect set of counterfactuals. We assess non-market welfare effects (the “social assessment”) through ethnographic research. It is worth noting that the economic assessment involved extensive primary data gathering on key economic indicators such as prices of land, livestock, housing, and so on, and the social assessment involved large scale-surveys of stress and health indicators through interviews and anthropometric measurements over the duration of the project. Indeed, assessing welfare implications of refugee inflows is neither simple nor quick.

<sup>15</sup> Fixed factors of production are factors that cannot be changed quickly or easily.

## II. Economic (market) impact: Methods

Before delving into the details of the methods, it is worth discussing how supply and demand shocks, as a result of the refugee presence, conceptually affect the Turkana economy. It is the intersection of supply and demand that establishes prices of goods and services, as well as those of labor and other factors of production, and it is these prices that anchor the assessment of the economic impact.

On the supply side, refugee inflows could affect market conditions for food and labor. Aid by humanitarian organizations, coordinated by UNHCR, unambiguously increases food supply, which has an effect on food prices because of the interesting dynamic we observe in Kakuma: refugees often sell food aid in local markets to buy non-aid goods. This could depress prices of aid goods (and their close substitutes), especially since aid goods are procured internationally or from the rest of Kenya, and given the difficulties in Turkana’s transportation network which create supply bottlenecks. In the labor market, if refugee inflow increases the supply of workers, then wages would be depressed. If refugees are allowed to work, then the supply of labor will increase and wages will decrease (especially in the short term). To the extent that labor is an important input to production, the decrease in wages may consequently lower the prices of goods that are labor-intensive in production (for example, construction). In the case of Kakuma, refugees are not generally allowed to work outside the camp. However, a number of refugees found employment in translation work for the UN and NGOs, as well as other positions within the camp structure. Refugees may also work informally outside the camp, thus providing labor market competition for locals, a complaint that has often been voiced by the Turkana people (Aukot, 2003).

On the demand side, the presence of refugees – and the ubiquitous crowding in of humanitarian workers – increases demand for all goods and services. Prices in non-tradable sectors (i.e., goods and services that cannot be traded in locations distant from where they are produced, such as housing, land, restaurants, and hotels) are particularly sensitive to such changes in demand. Holding supply of such goods fixed, additional demand will increase their prices, especially in the short-term. For instance, because housing supply cannot react very quickly to large increases in demand, prices must adjust as a result of the influx of displaced individuals and humanitarian workers. In the case of Kakuma and Turkana, this effect on prices may not be exclusive to non-tradables. For example, if the supply of tradable goods cannot adjust quickly as a result of supply bottlenecks, they effectively become non-tradable, and their prices will increase as well in the short-term. Given limited connectivity of the Turkana region, it is reasonable to assume that high transaction costs, because of delays and limited communication, create supply bottlenecks, thereby limiting the smooth adjustment of tradable prices and effectively making them more or less non-tradable in the short term.<sup>16</sup>

Overall, the net effect of the refugee presence on prices is determined by the simultaneous interaction of supply and demand forces. The net effect, however, is ambiguous. In the market for non-tradables, for example, where demand-side impacts are likely to dominate other effects, prices will increase in the short-term.

---

<sup>16</sup> One exception is when the supply of such goods also increases because refugees provide them; for example, constituents of aid packages.

Owners of land and housing should appreciate this. The consumers of the types of goods found in the aid basket will also benefit from lower prices. For those competing with refugees in the labor market, or producing foods found in the aid basket, effects are likely to be negative.<sup>17</sup> In the market for tradables that face supply rigidity, the price of aid-related goods is likely to decrease if aid is imported and if imports exceed the additional demand generated by the incoming population (which is likely the case in Kakuma). However, if aid were locally purchased, or if the additional demand is greater than the amount of imported aid, prices would increase. Complicating this picture is that in the long-term, a “labor reallocation effect” could magnify or mitigate the demand and supply shocks triggered by refugee arrivals.<sup>18</sup> A perceived existence of new employment opportunities in areas surrounding the camp, and associated increases in wages, may draw individuals from other parts of the region (the labor reallocation effect), thus putting more upward pressure on local prices, a phenomenon known as the “Dutch disease”. The complexity of the problem therefore requires a careful approach since refugee arrivals have different effects on market outcomes and on welfare of different host community groups. With this context in mind, we develop a novel methodology for assessing the impacts on each channel of transmission such as price, income, and labor reallocation effects, and subsequently, the aggregate economic effect.

## II(a). The core of the economic assessment: Theory and evidence

Having outlined what we mean by impact, we now describe how we measure it. Impact is the difference between an actual, observable outcome of refugee presence in Kakuma and a hypothetical case in which Kakuma did not receive any refugees. This is the “counterfactual” and in constructing one, we face an immediate challenge. Information about pre-camp Kakuma is scarce, and there are no ideal counterfactual cases in Turkana— that is, there are no towns *exactly* like Kakuma that did not host a refugee camp between 1991 and the present, and that were unaffected by the events in Kakuma, to which changes in Kakuma could be compared. Box 1 outlines the selection of the counterfactual candidates under these constraints.

---

<sup>17</sup> It is important to note that this framework revolves around market prices. For rural households that do not participate in markets, prices may not be the relevant mechanism through which to analyze impacts. Households entirely dependent upon their own production may find themselves facing prices which favor their entry into the market, thus transitioning from a state of autarky to one of trade, and vice versa.

<sup>18</sup> Note also that humanitarian workers may present a unique demand-side shock given the large differences in both tastes and income relative to the local population. Aid workers may have particularly large impacts in the market for “luxury” items such as household servants, restaurant meals, and certain food items. In addition, the aid agencies themselves constitute a new source of labor market demand, particularly for skilled and semi-skilled individuals. In our assessment, however, Kakuma represents a somewhat unique case since all foreign workers are housed in a compound adjacent to the camp, and hence do not directly increase demand for local housing. The presence of the camp may still indirectly affect local housing markets to the extent that the camp attracts local workers into the housing market in Kakuma Town for which we see some evidence, though it is largely anecdotal.

**Box 1: Selection of counterfactual towns**

Counterfactual towns are used for detecting Kakuma-specific effects. By comparing how an indicator changes with distance to Kakuma and how it changes with distance to other towns, the analysis is able to capture some Kakuma-specific effects, albeit in an imperfect manner. If these towns are taken to have been similar prior to the establishment of Kakuma refugee camp, then current outcomes for households in these locations reflect differences resulting from shocks that are unique to each of them.

Finding comparable towns to Kakuma Town was difficult. The candidates needed to be of similar size to Kakuma in 1989 (which had a population of 5,887), and be close to the Kitale-Juba highway. Within Turkana, there are four market towns with such characteristics: Lokichar (pop. 4,887), Lokori (pop. 5,590), Kangatet (pop. 5,590), and Lokwal Kalokol (pop. 6,842). Because Lokwal Kalokol is off the main highway and Kangatet too close to Lokori, they were ruled out. Security challenges made it impossible to arrive at Lokori, and based on discussions with Turkana and UNHCR staff, it was replaced with Lorigum, located on the main highway, west of Lodwar en route to Uganda, and halfway between Lokichar and Kakuma.

Overall, the household survey for Turkana was implemented in Lorigum, Lokichoggio, Lokichar and Kakuma, all located in a very arid region, but also close to key resources needed for successful pastoralism – rivers. They serve as important bases of operations for many pastoralist households. More information on the selection of the household sample conducted for this report is provided in the appendix.

One important caveat is that these counterfactuals are at best imperfect. Because of its presence near an unstable border, Lokichoggio is clearly different from the other towns in the sample, and can only be taken as a very loose “future scenario.” In the case of the Lokichar and Lorigum subsamples, their use as counterfactuals could be problematic because of spillovers – i.e., migration of households or price effects which trickle down from Kakuma. It is encouraging to note that we found no strong evidence of such potential problems in the data.

Lokichoggio, the original site of what is now the Kakuma refugee camp, was included as an additional comparison town, but it serves a different purpose. It provides an example of what happens when “aid leaves,” which may be a potential future scenario for Kakuma.

The next step was to construct an empirical base; i.e., a variety of summary statistics from surveys, and analyses of separate data sources for the camp, Kakuma Town, and the counterfactual towns. Prevailing data sources include household characteristics from Kenyan censuses and a registration census by Hunger Safety Net Program (HSNP), price data from the Famine Early Warning System (FEWSNET) and Livestock Information Network Knowledge System (LEWS), refugee counts from UNHCR, and aid delivery statistics from the World Food Programme (WFP). Box 2 gives a flavor of these sources. In addition, household surveys for this report were undertaken in 2015 in both Kakuma refugee camp and in residential areas, near and far from the

camp. Slightly different instruments were used for households within the camp (the refugee survey) and those outside the camp (the Turkana survey). Both included modules on household demography, income, and perceptions. Information on consumption was also collected, albeit in a limited fashion, and only intended to detect short-term changes in consumption.

### **Box 2: External sources of data**

This report accesses a wide variety of data sources, which are described in detail in this box, and will be referred to in the remainder of the report.

**i. Kenyan Census:** We use the Kenyan Census data from 1979, 1989, 1999, and 2009 (GoK, 1989, 1999, 2009). Data from 1989-2009 were linked to GIS data obtained from the Kenya Open Data Initiative website. Household covariates for a 10% subsample from these censuses were used in some of the background statistics above, where available, and were downloaded from the Integrated Public Use Microdata Series International website (IPUMs International 2015).

**ii. Hunger Safety Net Program (HSNP):** A key source of information on the entire Turkana region is the registration census conducted by the HSNP (2015). This program is one of a variety of cash transfer programs operated by the Kenyan Government. HSNP specifically supports the poorest households of Turkana, Mandera, Wajir, and Marsabit Counties, with the objective of reducing extreme hunger and vulnerability. Over 140,000 households were registered in the Turkana region, and about 40,000 eventually received support from the program (Fitzgibbons 2014).

The registration dataset intends to be a census of all possible recipients of the program, and was undertaken between October 2012 and June 2013. The data includes a variety of household covariates, including age, gender, education, and occupation of the household head, as well as of other family members, livestock holdings, and a predicted consumption variable, which HSNP calls a “proxy means test.” We use this data both to provide background statistics as well as to serve as a sample frame for our own household survey.

**iii. Price data:** Data on prices came from two sources: The Famine Early Warning System (FEWSNET) provided monthly price data on agricultural and some livestock goods from 2000 onwards for 11 markets throughout Kenya. Unfortunately, however, we could only use this data descriptively, since the Turkana markets had significant numbers of missing observations. Livestock prices from 37 markets between 2004 and 2013 came from the Livestock Information Network Knowledge System, and collaboration between the Government of Kenya, USAID, and the UC Davis GLCRSP group (LEWS 2015). This data averages transactions for different breeds and types of livestock undertaken on market day in each market location approximately twice per month.

**iv. UNHCR refugee counts:** Annual refugee numbers prior to 2007 have been taken from published UNHCR sources. Monthly refugee numbers between 2007 and 2015 were provided by the UNHCR.

**v. WFP statistics:** Similarly, information on food aid deliveries was absent prior to 2007. From that date onwards we have monthly food aid deliveries to Kakuma in metric tons.



Using empirics for calibrations, the final step was to build a multi-sector general equilibrium model tailored to Kakuma to simulate the impact. The simulations generated a set of results that we can look for in the empirical analysis, after which we can identify the unexpected results and find potential explanations for them.<sup>19</sup> Details of the simulations and modeling can be gleaned in the background economic impact assessment paper, but in essence, this approach (simulations and empirics) permits us to capture price, income, and labor reallocation effects of refugee arrivals in a systematic manner. Box 3 encapsulates the relevant technical detail.

### **Box 3: Simulations and empirics**

The analysis uses a model that builds on Artuc et al. (2008) and Artuc et al. (2010). The initial economic environment features 42 symmetric regions, one of which is Turkana (based on its population share), one non-tradable sector in each region, and a common tradable sector whose price is given independently. There are two types of workers: skilled and unskilled, with the former having higher productivity. They are imperfect substitutes in the production of all goods. Local workers and refugees are perfect substitutes provided that they are the same type, e.g., both skilled or both unskilled. All workers earn wages that are equal to their marginal productivities. There is also a fixed factor of production in each region (land) that is owned by locals. The rents to this factor are shared by the locals (non-refugees).

One helpful feature of this approach is that it pays special attention to mobility of labor across geographic regions and sectors. Host community members, and if permitted, refugees as well, can rationally change jobs across sectors or move to a different region at any point in time. The decision to move is based on a comparison between the cost of movement, which is paid only once at the time of movement, and the expected change in the person’s lifetime income after that movement.

These simulations help us understand the underlying mechanisms on two fronts: first, they allow us to capture the labor reallocation effect, and second, they help disentangle the short and medium-term outcomes. Economic and social impact analyses of refugee arrivals often overlook the labor reallocation effect, which can be significant. This is partially because such effects are difficult to capture in partial equilibrium approaches that are often used to identify the effects on income or price. However, as demonstrated by Artuc et al. (2010), to calculate welfare effects, one needs to take account of the constant inter-industry gross flows of workers observed in the data. These gross flows are large and have significant effects on welfare calculations. Indeed, due to these flow effects, the short-term outcomes (during which the supply side of the economy is not yet settled into a new equilibrium) could be significantly different than the long-term ones (by when all adjustments are completed and economy reaches a new steady-state).

---

<sup>19</sup> The choice of empirical approach is to a large extent driven by the availability of data. For instance, whereas a simple comparison of population densities over time is used for assessing labor reallocation effects, regressions that take advantage of the spatially stratified nature of the price data are used for detecting the price effects in livestock markets. More detailed descriptions of estimation approaches are described in the companion economic impact assessment.

In sum, the simulations project both the transition paths of prices, real wages, lifetime income, and labor reallocation across industries and regions, as well as permanent shifts in them – a novel feature of our approach. Although the magnitude of our results are sensitive to numerical exactitude in simulations, which at times may be difficult as a result of data limitations, overall, the qualitative results are generally robust to changes in numerical assumptions.

### III. Social (non-market) impact: Methods

The primary purpose of this component was to assess and analyze the net social (including psychosocial and socio-economic) costs and benefits of the presence of refugees on the host communities in Turkana County using an ethnographic approach to gain data on social and economic behaviors, motivations, perceptions, and agendas of both the host and refugee communities. We conducted ethnographic research in the four towns of Kakuma, Lodwar, Lorugum, and Lokichoggio in May and June 2015.

#### III(a). Ethnographic themes:

To understand the social economies of the Turkana and the refugees of Kakuma, we used ethnographic approaches following a longitudinal study that has been ongoing in and around Kakuma since 2008, including participant observation with the Turkana in their homes and villages.

We elicited data using participant observations, intensive semi-structured interviews, and focus group discussions.<sup>21</sup> The participants (n=121) interviewed were selected from the refugee (n=30) and the host community (n=91), primarily through contacts from previous research in Kakuma (see Ohta 2005; Oka 2014; Hastorf 2008; Horn 2014). Precautions were taken to make sure that the non-initial participants and assistants selected were from different ethnic and social groups within both refugee and host communities. While these initial contacts/research assistants might have heard about each other, care was taken to ensure that they live and work in non-overlapping social networks. This also ensured that the participants would also hail from different social networks.

Box 4 outlines the seven themes selected for the ethnographic research. These ethnographic themes were built around previous ethnographic work on the informal and formal economies of Kakuma and Turkana County (de Montclos and Kagwanja 2000; Ohta 2001, 2005; Oka 2011a, 2014), guiding the interview process while leaving space for further information, clarification, or refutation.

#### Box 4: Ethnographic research themes

The seven ethnographic themes selected for the social impact analysis are:

- i. Socio-economic mapping
- ii. Social services
- iii. Social organization and structure
- iv. Economic participation
- v. Community organization and participation
- vi. Conflict and violence
- vii. Developmental activities

The background social impact analysis paper presents in-depth the questions asked under each of these themes, but broadly speaking, questions ranged from what are the coping strategies (both positive and adverse/negative strategies) that have been adopted both by host and refugee communities, to the way the arrival and protracted stay of refugees affected coping strategies among the host communities. On conflict, we asked questions on the type and prevalence of conflict and violence among host and refugee communities, including sexual and gender-based violence, and the effectiveness of conflict resolution and peace building mechanisms. We also discussed how the interventions of various developmental actors changed over time, and what host and refugee communities expected from developmental interventions.

#### III(b). Psychosocial stress and anthropometric surveys in the Turkana host community

An innovative dimension of the social impact analysis is that, in addition to the ethnographic methods described above, we were able to conduct a large-scale survey of stress and health indicators that enabled us to directly measure anthropometric outcomes in Kakuma Town, next to Kakuma refugee camp, and the towns of Lokichoggio, Lorengo, and Lorugum.<sup>20</sup> A robust sample (n=600) comprising of equal numbers of men and women from each of the four towns was assembled in each of the four study locations. Refugee camps are frequently assumed to negatively impact their host communities through resource competition and conflict. These analyses instead focused on whether host communities might also benefit from the refugees' presence through economic exchange. To assess these impacts, anthropometric measures of physical/nutritional wellbeing were compared between communities in Turkana. Data was elicited on the following:

- a) Demographic information including gender, age, marital status, number of spouses, number of children, livestock, livelihood, and social support;
- b) Psychosocial stress data where the participants were asked to free-list the main sources of stress and worry in their lives;
- c) Anthropometric measures including Body-Mass Index (height and weight) and sum of skinfold thickness (SSF). While BMI is an approximation for physical well-be-

<sup>20</sup> These methodologies for health and nutritional survey of Turkana were built on previous bio-anthropological approaches in South Turkana County (Brainard 1986; Pike 1998, 2004).

ing and energy status, SSF is a highly respected indicator of energy status as a measure of body fat content. Body fat content, especially in impoverished and malnourished populations, is positively correlated with better nutrition, physical health, and maternal/reproductive health.<sup>21 22</sup>

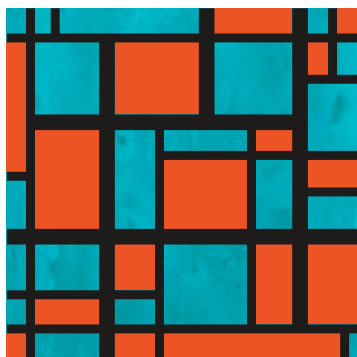
#### IV. Caveat emptor

With all the nuances, subtleties, and caveats, the methods described above help us assess the question -are refugees a benefit or burden to the Turkana? What do our findings show? However, before turning to results in the next chapter, it is worth reiterating the three big caveats of our methodologies (and hence, results). First, both economic and social impact analyses are hampered by data quality and availability (which we tried circumventing through doing our own primary field work and in the case of the economic analysis, by developing a novel methodology that also relies on economic theory). And not all market impacts are assessed (for example, impacts on environmental resources and buffers, because of the difficulty in valuing them and the lack of well-defined claimants). Second, in the economic analyses, the counterfactual, though workable, is not perfect and neither is the model a complete representation of reality.<sup>23</sup> In addition, a number of results are likely to be sensitive to underlying assumptions of the simulation model such as those relating to labor mobility and differing skill types. However, simulations are conclusive on the direction of overall effects. Third, in the social impact analyses, due to the sensitive nature of the questions and volatility of the research area, neither the ethnographic nor the psychosocial surveys used random sampling methods. Both data collection approaches utilized the investigators' contacts with trusted participants known for between 2-7 years to engage new participants. However, within group bias was mitigated as these prior contacts were drawn from different ethnic, religious, social, political, and economic groups, and responses were crosschecked within and between groups. Another caveat was that the data was collected in a semi-structured and focus group interview format but based on specific predetermined questions. However, each interview lasted for at least two hours and many participants were interviewed repeatedly. In addition, the researchers engaged with participants through food sharing and friendship rituals before, during, and after the interactions, ensuring room for variation and further discussion, including clarification and explanation. With these caveats in mind, we now turn to the results.

<sup>21</sup> There are various ways to measure body fat content and the most common methods are hydrostatic weighing and SFF. SSF is ideal for field studies as it is a standardized non-intrusive method that enables the calculation of Body Fat Percentage, which in turn enables determination of energy status over the past 6-12 months.

<sup>22</sup> We are aware that various factors, including Water, Sanitation, and Hygiene (WASH) affect nutritional status, and hence anthropometric measurements, by generally contributing to undernourishment and malnutrition. This takes place due to the chronic or recurring diarrhea and a condition known as tropical/environmental enteropathy that is significantly correlated with exposure to "large quantities of fecal bacteria" (Mahmud and Mbuya 2016; see also Humphrey 2009). The Turkana of all four sites do indeed live in such environments as they practice ablutions in waterholes and rivers also frequented by livestock, and domestic animals.

<sup>23</sup> While non-economists like to criticize economists for their models, economists are even more critical. In his 2015 book "Economic Rules", Dani Rodrik notes that the economist Kenneth Boulding supposedly remarked, "Mathematics brought rigor to economics; unfortunately, it also brought mortis". In our modeling work, we clearly do not attempt to capture every single aspect of reality; only the most relevant ones.



## 4. Assessing Impact: Results in 3D

**A**re refugees a boon or bane? Benefit or burden? We present the results of the economic and social impacts of refugees on Turkana (and where relevant, Kenya) in three complementary dimensions: (i) The first is the aggregate macroeconomic impact on Turkana’s economy (impact of the refugee presence on Turkana’s GDP); (ii) The second is the impact on individual markets (how does the presence of refugees affect agriculture, housing, and livestock markets); (iii) And finally, we present results from the social impact analysis. These three dimensions serve as checks and balances on any given one, and much like 3D imaging, the analysis is intended to provide depth to the topical discussion at hand, bringing evidence-based results to the fore, and presenting a composite picture of the impact of the refugee presence on host communities.

### I. Dimension one: Aggregate macroeconomic impact of the refugee presence on host communities in Turkana

**Result 1: The refugee presence has a beneficial impact on Turkana’s economy: It boosts Turkana’s (a) overall income, (b) income per “local” person, and (c) domestic employment.** Table 1 summarizes the results of the simulations of refugee arrivals and their aggregate effects on macroeconomic outcomes. The Gross Regional Product (GRP) of the Turkana region increases permanently by 3.4 percent as a result of refugee presence. Importantly, this increase is permanent. The effect on overall employment is also positive: total employment increases by 2.9 percent. And finally, in per capita terms, though the magnitude is not big, the “GRI per local person (GRIplp)” in Turkana also increases by 0.5 percent. These results, put together, suggest the refugee presence has a beneficial impact on Turkana’s economy.

The impact of the refugee presence on the rest of Kenya is, however, negligible. Even though refugee arrivals pull labor from other regions to Turkana, with important implications for Turkana’s economy, the implications for the rest of Kenya are insignificant (the bottom panel in Table 1 shows that most effects on the rest of Kenyan economy are small enough to be rounded up to zero). This is likely explained by the fact that Turkana itself represents a miniscule share of Kenya’s economy.

**Table 1: Macroeconomic effects of refugee arrivals (encampment simulation results) suggest the refugee presence has a beneficial impact on Turkana's economy**

	BEFORE ARRIVAL	ARRIVAL YEAR	+5 YEARS	+10 YEARS	+15 YEARS	+20 YEARS	+30 YEARS	+50 YEARS
	<i>(Percentage change from initial equilibrium)</i>							
<b>TURKANA</b>								
Gross Regional Product (GRP)	0.0	<b>2.6</b>	3.4	3.4	3.4	3.4	3.4	3.4
Tradable	0.0	<b>-5.7</b>	-7.1	-7.1	-7.2	-7.2	-7.2	-7.2
Non-tradable	0.0	<b>5.7</b>	7.3	7.4	7.4	7.4	7.4	7.4
Employment (locals only)	0.0	<b>1.2</b>	2.8	2.9	2.9	2.9	2.9	2.9
Tradable	0.0	<b>-2.7</b>	-6.0	-6.3	-6.3	-6.3	-6.3	-6.4
Non-tradable	0.0	<b>2.7</b>	6.2	6.5	6.5	6.5	6.5	6.5
Gross Regional Income (GRI)	0.0	<b>2.6</b>	3.4	3.4	3.4	3.4	3.4	3.4
GRI per local person	0.0	<b>1.4</b>	0.6	0.5	0.5	0.5	0.5	0.5
Non-tradable prices	0.0	<b>12.0</b>	7.3	7.0	6.9	6.9	6.9	6.9
<b>REST OF KENYA</b>								
Gross Regional Product (GRP)	0.0	<b>0.0</b>	0.0	0.0	0.0	0.0	0.0	0.0
Tradable	0.0	<b>0.0</b>	0.0	0.0	0.0	0.0	-0.1	-0.1
Non-tradable	0.0	<b>0.0</b>	0.0	0.0	0.0	0.0	0.0	0.0
Employment (locals only)	0.0	<b>0.0</b>	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Tradable	0.0	<b>0.0</b>	0.0	0.0	-0.1	-0.1	-0.1	-0.1
Non-tradable	0.0	<b>-0.1</b>	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Gross Regional Income (GRI)	0.0	<b>0.0</b>	0.0	0.0	0.0	0.0	0.0	0.0
GRI per local person	0.0	<b>0.0</b>	0.0	0.0	0.0	0.0	0.0	0.0
Non-tradable prices	0.0	<b>0.0</b>	0.0	0.0	0.0	0.0	0.0	0.0

Notes: Gross Regional Income (GRI) is defined as Gross Regional Product minus the wage bill of refugees. In the case of encampment, since refugees are not allowed to work, both concepts are equivalent.

**Result 2: Unlike tradable sectors, non-tradable sectors (which constitute a much larger share of the economy) benefit from the refugee presence as measured by their impact on prices, wages, and employment.** In the long-term, we find that income in non-tradable sectors grows by 7.4 percent, whereas in tradable sectors, income shrinks by 7.2 percent. This is because higher demand due to the refugee presence – which derives from refugees having purchasing power in the form of aid and remittances – pushes up the relative price in non-tradable sectors causing more resources to be allocated from tradable to non-tradable sectors. Consequently, both employment and wages in non-tradable sectors increase in contrast to employment and wages in tradable sectors. Employment increases by 6.5 percent in contrast to a contraction of 6.3 percent in tradable sectors, and real wages (as defined with respect to changes in consumer prices) of both skilled and unskilled workers increases by 0.3 percent and 0.8 percent in contrast to 0.4 percent and -0.9 percent, respectively, in non-tradable sectors.<sup>24</sup>

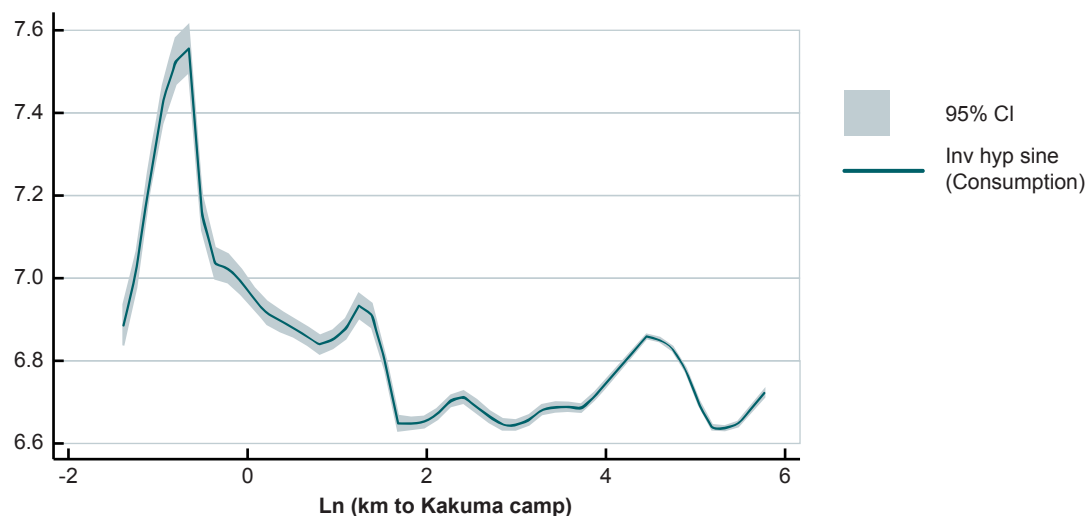
**Result 3: The refugee presence increases consumption, self-reported incomes, and to a smaller extent, asset ownership of the Turkana.** The previous results were simulated ones. In order to get a more composite measure of aggregate impacts, we further complement these simulation results with empirical ones (what we observe) from household surveys in order to infer the effect of the refugee presence on (a) consumption and (b) self-reported incomes of Turkana households.<sup>25</sup> From a spatial perspective, the HSNP consumption data suggests that refugees have a positive impact on host community consumption. Figure 7 shows the distribution of the HSNP predicted consumption measure across distance from Kakuma camp. This measure was based upon a prediction conducted with the HSNP registration data that correlated household characteristics with census data on consumption to generate predicted consumption. HSNP calls this “PMT”, or Proxy Means Test, which represents the Kenya shillings value of adult household consumption per capita based on 2005-2006 prices.

As the figure shows, the peak of the per capita consumption variable occurs at about 5 km from the camp, and decreases from that point forward with some variation. Regression analyses further confirm the positive effect of refugees on host community consumption. Consumption measures within 5 km of the camp are up to 35 percent higher than in other parts of the county.<sup>26</sup> Household surveys also show that those who live close to Kakuma refugee camp tend to have higher income and assets. For example, Kakuma residents are four times more likely to own a bicycle than non-Kakuma residents. Table 2 lists income per capita and asset ownership by sub-

<sup>24</sup> The effect on wages is not that large because in the long-term, labor is mobile and local wages get aligned with the rest of the country.

<sup>25</sup> The advantage of simulations is that they provide results with causality but do not capture all dimensions of welfare effects (related to security for example). Empirical results, on the other hand, derive from what we observe but it is difficult to infer causality from those. Hence these two are complementary to each other.

<sup>26</sup> Regression estimations first disregard precipitation, and then introduce it as a control in subsequent columns. We refer the more technically-minded reader to the background paper on the economic impact assessment for details.

**Figure 7: Per capita consumption falls with distance from Kakuma refugee camp**

Notes: Figure shows a kernel regression of the HSNP predicted consumption measure on the log-transformed distance to Kakuma camp.

**Table 2: Incomes and assets fall in value with distance from Kakuma refugee camp**

	MEAN KAKUMA	MEAN NON-KAKUMA	P-VALUE DIFF	OBS KAKUMA	OBS NON-KAKUMA
Cash income per capita	12771.446	6450.240	0.056*	111	219
Owned house 2005	0.541	0.530	0.852	111	219
Owned car 2005	0.000	0.000	.	111	219
Owned motorcycle 2005	0.027	0.014	0.393	111	219
Owned bicycle 2005	0.117	0.027	0.001***	111	219
Owned refrigerator 2005	0.000	0.000	.	111	219
Owned television 2005	0.009	0.005	0.624	111	219
Owned radio 2005	0.117	0.082	0.306	111	219
Owned cell phone 2005	0.198	0.192	0.890	111	219
Owned generator 2005	0.000	0.000	.	111	219
Owned computer 2005	0.000	0.005	0.477	111	219
Owned camera 2005	0.000	0.005	0.477	111	219
Sum of assets 2005	1.009	0.858	0.186	111	219
Change assets 2005-2015	0.117	0.082	0.674	111	219



**Result 4: There is significant heterogeneity in the impact of the refugee presence on host community incomes and consumption.** Households with access to small businesses and farm incomes appear to be better-buffered from short term shocks, while wage-earner and animal-selling households suffer more from them. Farming households and wage-earners have higher long term asset growth in Kakuma than in other towns. We come to this finding by introducing interaction terms in the estimates that test for differences in assets and purchases between the Kakuma subsample and the counterfactual towns. When looking at the differences in assets, cash income, and consumption indicators across households with different incomes sources (small enterprise, wage, and agricultural and animal sales), the results show that whereas wage earning and farming households of Kakuma observed growth in their assets over the last decade, those who sell animals observed a decrease.

Coincidentally, a “natural experiment” helped us further corroborate this heterogeneity in impacts. Following the unfortunate and tragic Garissa University attacks of April 2015, all informal money transfer systems were shut down for two months for security reasons. During this time, 45 percent of refugees reported that the frequency of their transfers had decreased either slightly or significantly. At the same time, small enterprise households in Kakuma, which should have been adversely affected by the cash flow shock that hit the camp between April and June, saw increases in food purchases, indicating that they were buffered from this. Wage earning households, on the other hand, were not – they experienced decreases in food purchases and in quantities of all food items in Kakuma. Households that sold animals also saw decreases in the number of food items purchased and in the amount of sugar. Finally, Kakuma farm households show mixed results on consumption – no significant effects on number of goods purchased between April and June, decreases in sugar purchases, and increases in tea purchases. These results underscore the heterogeneous impacts of shocks in the refugee camp on host communities. Business owners and households engaged in farm sales are buffered from the negative effects of being near Kakuma Town, while wage earning and livestock-selling households seem to suffer more from them.

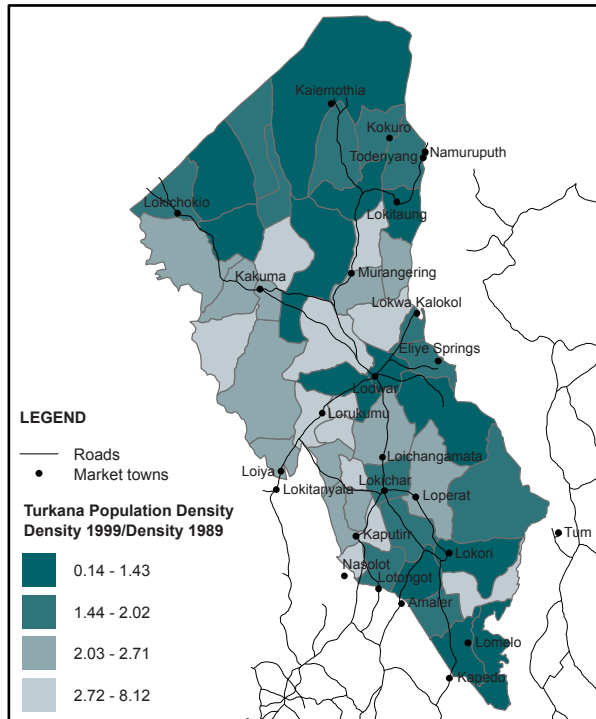
**Result 5: There is no clear evidence to suggest that the refugee presence has pushed populations away or pulled them in.** Although changing administrative boundaries over time make it difficult to map out population changes in Turkana, the analysis here was able to harmonize the 1989 (pre-camp) and 1999 and 2009 sub-location boundaries. Census data then allows for the comparison of spatial population growth rates over the years. Figure 8 illustrates changes in population density between 1989 and 1999 and between 1989 and 2009. As these are data from the Kenyan census, they do not include refugees.

As the maps show, lakeshore sub-districts were among those that shrank or grew very slowly, and the fastest growing sub-districts were mostly located in the center of the county. Along the border with neighboring countries, population tended to stagnate. Northwestern areas in and around Kakuma, as well in the southwest, grew rapidly.

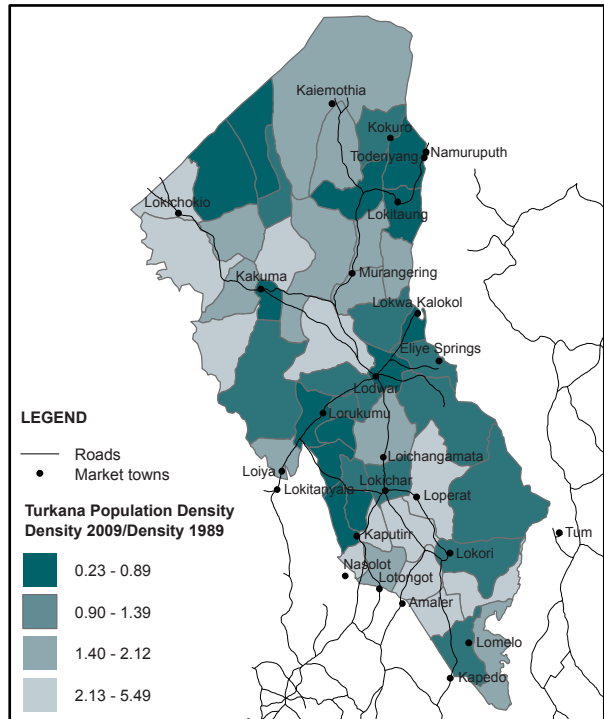
Our household survey data, however, suggests that there is significantly more in-migration into Kakuma than into the counterfactual villages. Of all the individuals registered in the rosters of the households we interviewed, 8.6 percent of those living in Kakuma had moved there from other villages, while 5.9 percent of those living in

**Figure 8 (a) and (b):** The fastest growing districts are in the center of Turkana County

**(a):** 1999/1989 population density



**(b):** 2009/1989 population density



Source: World Bank staff calculations using Kenyan Census data, 1989, 1999, 2009

control towns were in-migrants. Overall, the evidence is not conclusive to show either that populations have moved away from the Kakuma area, as they might have if it were the case that the camp worsened local opportunities, nor is there any indication that households have flocked to the Kakuma sub-region in order to take advantage of potential jobs provided within the refugee camp infrastructure. Population growth in general appears to occur more significantly along the main roads, outlined in red.

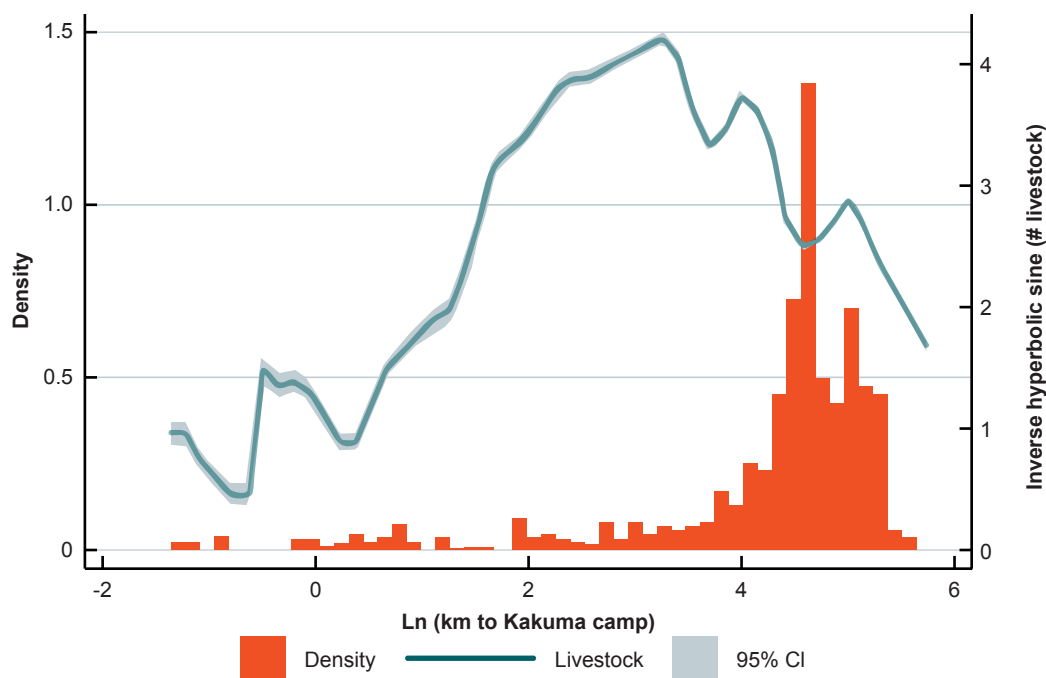
## II. Dimension Two: Impact of the refugee presence on individual markets (livestock, agriculture, and housing)

When it comes to individual markets, refugee camp markets are heavily patronized by host community residents who take advantage of lower prices of a variety of goods. Sixty-two percent of participants in the Kakuma subsample of our survey stated that they use markets in the camp. This is evidence that the prices and products offered there are attractive to locals. In addition, the sheer size of the refugee camp leads to better connectivity to other markets and, thus, availability of a wider variety of goods. It is also worth noting that refugee camps, due to their size and loca-

tion on transport corridors, tend to have somewhat better functioning markets. However, the lack of local production outside of livestock, milk, and small amounts of cereals means that traders must bring in other products from quite some distance. Markets are relatively competitive between wholesalers, although we note that wholesalers in Kakuma appear to have an important role in determining prices. Interviews with camp residents suggest that there are four to five main wholesalers who determine market prices in Kakuma camp. With this backdrop in mind, we summarize the results on livestock, agriculture, and housing markets.

**Result 6: Livestock holdings, the main livelihood of the Turkana region, decrease near the camp.**<sup>27</sup> Our analysis provides some support for the livestock displacement effect of the camp. HSNP census data shows that livestock holdings in 2011 were quite low in the Kakuma area relative to the rest of the region (Figure 9).

**Figure 9: Livestock holdings increase with distance from Kakuma refugee camp**



Source: World Bank staff calculations using HNSP 2011 data

<sup>27</sup> In an interview with the World Bank team, the current Turkana Chief of Kakuma stated that when the refugees arrived in 1991, the site where the camp was based was a bushy forest ecosystem that supported a wealth of local indigenous trees. The local people who inhabited that area or moved with their cattle did not want to leave the area and it was only after they were instructed to exit and remain outside of a certain radius from the camp that they eventually left. For some, this process took between six months to one year due to protests, and the chief pointed out that even today if you go into the camp, you can find some old Turkana who spend a lot of time inside the camp because they still believe that this is their land. Over time, the numbers of people in Kakuma grew and many of the local inhabitants remained along the Tarach River so as to have access to water supplies. Many of the pastoralists, particularly during the dry season, moved further and further away. Earlier, they moved north towards the South Sudan border, but because clashes with the Toposa have resulted in numerous deaths for the local population, many have recently chosen to cross the border to the west to graze with the Karamojong in Uganda.

It bears mentioning that the bulk of the population is not located around the camp (as the accompanying histogram of population distribution in the figure shows), but those that do live nearby tend not to have cattle.<sup>28</sup> Cattle holdings increase substantially at about 7 km (ln (2 km)) from the camp. It is also worth noting that the 2011 HSNP data affords us only a snapshot in time, from which it is difficult to draw firm conclusions regarding such a mobile population, especially since Turkana pastoralists tend to avoid market towns in both dry and wet seasons as they seek grazing lands and pastures further afield during the former, and to avoid the predatory market brokers (*nimuchurus*) during the latter. They may also avoid living in close proximity to market towns because of fears of livestock raiding and the growth of a new form of *moranism* or raiding across Turkana County and surrounding areas; market-driven livestock raiding where the raids (including weapons and transportation) are sponsored by key market actors, and where raided animals are brought directly to the market for resale, rather than the traditional approach where raided animals are used to increase herd size (Hendricksen et al. 1996; Hodgson 2000; Hogg 1982, 1986; McCabe 1987, 1990a, 1990b; 2004; Oba 1992).

Hence, when averages across Kakuma households and counterfactuals (Lorugum and Lokichar, which together represent the counterfactual case) are compared, we find no significant differences in number or value of poultry and livestock cared for, sold, owned, or stolen in the past year. Similarly, no changes in the movement or watering of animals during the past five years are reported. There are interesting results, however, when the patterns across stratification levels, < 2 km to the city center, 2-8 km, and 8-10 km, are compared between the Kakuma subsample and the subsample for Lorugum and Lokichar. Both the number and value of animals are higher at distances closer to Kakuma, probably due to the presence of the Kakuma livestock market and the large demand for milk and meat in both Kakuma Town and the refugee camp.

Local producers may still benefit from the presence of the refugee camp through higher sale prices for their meat and milk products, although ethnographic observations suggest that the presence of the *nimuchurus* reduces the amount received by the actual producers by 100-500 percent of the final wholesale price (Oka 2011b). Analysis of monthly livestock prices from 2007 to 2013 suggests that increases in refugees and aid are correlated with price increases near the refugee camp (Table 3). In particular, a one percent increase in the refugee population results in a 3.5 to 3.8 percent increase in goat prices in Lodwar. There is some evidence that increases in food aid per refugee also induce price increases, probably through their effect on refugee income. The increase in price may be favorable to producers who sell on this market.

Overall, the livestock data analysis suggests both benefits and costs of the refugee presence. On the down side, there seems to be a greater propensity for livestock stealing near the camp than near other towns. On the other hand, prices for goats and cows increase with increases in food aid. This may benefit local residents if they engage in the market, which seems to be the case closer to Kakuma. However, it also raises the cost of consumption for net buyers of livestock-related goods.

---

<sup>28</sup> Seasonality also plays a role as the pastoralist Turkana follow a circular pathway and only come to market towns such as Kakuma a few times in the year.

**Table 3: Increases in refugees and aid are correlated with increased livestock prices**

	(1)	(2)	(3)	(4)
Ln (refugees) x Lodwar		0.358*	0.353*	0.377*
		(0.152)	(0.153)	(0.162)
Aid per 1000 refugees x Lodwar	0.009		0.007	0.008**
	(0.004)		(0.004)	(0.003)
Ln (volume sold)				0.109
				(0.089)
Observations	205	205	205	205
Adjusted R 2	0.724	0.736	0.735	0.748

Notes: Dependent variable: ln(price in shillings). Regressions include fixed effects at market and year/month level. Data is average monthly price. Standard errors clustered at market level. For female goats, markets are Isiolo, Lodwar, Mulot, Nairobi, and Rumuruti. \*p<\$.10, \*\*p<\$.05, \*\*\* p<\$.01. Prices are for female goats of grade 2. Note that prices are not available for Kakuma but only for Lodwar. We expect that price increases in Kakuma would be larger than those estimated here.

**Result 7: Agriculture benefits (marginally) from the presence of refugees.** The refugee presence can either provide an incentive for more agricultural production or serve as competition to local production. Although Turkana is generally unsuitable for agriculture, our results suggest that agriculture provides at least a partial livelihood for a small number of households around the camp. In Kakuma, as Table 4 shows, 33 percent of households farmed in 2014, though 10 percent of these did not harvest due to the fact that drought devastated their crops. The main crops farmed are millet, maize, sorghum, and legumes. The largest part of production is consumed by the households themselves (40 percent), with 18 percent sold, and a similar amount saved. Smaller proportions are fed to animals or gifted (6 and 8 percent, respectively). Farming households typically have other sources of income as well. The value of farm sales were around 3,000 shillings for the previous growing season, though this number is much smaller if non-labor inputs are taken into consideration, in which case revenues decrease to 1,215 shillings. Given a minimum wage for an unskilled worker in Kenya is 228 shillings per day,<sup>29</sup> this revenue is easily exceeded by value of labor used on the farm. Thus, about half of farmers also practice animal husbandry and 20 percent also own a small business. The development of discovered fresh water aquifers to support irrigated agriculture, thus enhancing the role of agriculture in the Kakuma economy and that of women in agriculture, could potentially enhance related benefits.

Despite the harsh conditions, the camp has a small but positive effect on farming;

<sup>29</sup> <http://www.wageindicator.org/main/salary/minimum-wage/kenya>

**Table 4: Kakuma refugee camp has a small but positive effect on farming**

	MEAN KAKUMA	MEAN NON-KAKUMA	P-VALUE DIFF	OBS KAKUMA	OBS NON-KAKUMA
Household farms	0.333	0.005	0.000***	111	219
Farmed with no harvest due to drought	0.108	0.000	.	37	1
Area farmland owned (ha)	31.689	500.000	.	37	1
Value of farm sales	3018.297	36000.000	.	37	1
Farm sales - inputs (not labour)	1215.595	33900.000	.	37	1
Non-labor input costs	1802.703	2100.000	.	37	1
Labor days on the farm	51.111	15.000	.	36	1
Proportion farm production to animals	0.062	0.002	.	32	1
Proportion farm production consumed	0.400	0.200	.	30	1
Proportion farm production sold	0.181	0.140	.	30	1
Proportion farm production gifted	0.085	0.001	.	31	1
Proportion farm production saved	0.165	0.006	.	32	1
Had land dispute	0.432	0.000	.	37	1
Borehole dispute	0.297	0.000	.	37	1

\*p<.10, \*\*p<.05, \*\*\* p<.01

it seems that the refugee camp has provided some demand for products grown locally. Nevertheless, those who farm in Kakuma are found to be small producers who rely more on their own labor, consume a larger share of the harvest, and face greater rates of failure due to drought as compared to farmers outside Kakuma. This suggests that the dynamic where food aid drives down local food prices, thus discouraging production, is not at play in this setting.

**Result 8: The refugee presence indirectly influences the housing market.**

Refugees and aid workers do not directly rely on housing services outside the camp, but they influence the housing market via indirect channels. All international workers who come to Kakuma camp are housed in a compound, and the refugees themselves are limited to the camp. Nonetheless, the refugee situation could affect housing market when households move to the area seeking jobs – which may increase housing demand – particularly if this activates a previously nascent rental and sales market. Given the thinness of the housing market, we find some qualitative evidence of changing housing dynamics after the establishment of the refugee camp. According to the clerk of the Kakuma Turkana Chief, prior to the refugee camp's establishment, land was free and available for the Turkana. In more rural areas, land is still considered to be communal, while in more urban areas local authorities facilitate the

allotment of land. This is confirmed in the county government’s reporting of land titling; the Turkana County Integrated Development Plan for 2013-2018 indicates that in the entire county, only three official land titles have been issued (Republic of Kenya, 2015). Some commercialization began after the arrival of refugees, and there are signs that the discovery of natural resources – water and oil – in the region is leading to speculation in land and housing prices. Because land and housing markets are thin, it is difficult to detect impacts in our household dataset. Table 5 shows basic comparisons between the Kakuma subsample and the counterfactual towns. The housing in Kakuma seems to be of lower quality – homes are smaller, less likely to have piped water or more modern walls or roofs. In addition, the rental market does not seem to be active in Kakuma – only one household stated that they rent their home. Household heads, who could remember the year that they arrived in their current house (the Turkana use a different calendar) seem to have, on average, arrived slightly later to Kakuma.

**Table 5: Comparison of housing statistics between Kakuma and counterfactual towns**

	MEAN KAKUMA	MEAN NON-KAKUMA	P-VALUE DIFF	OBS KAKUMA	OBS NON-KAKUMA
Non-traditional roof	0.171	0.256	0.084	111	219
More than one room in house	0.198	0.315	0.025*	111	219
Brick or metal walls	0.036	0.110	0.023*	111	219
Receive water from pipe	0.135	0.265	0.007**	111	219
Owns home	0.991	0.932	0.017*	111	219
Monthly rent for home	1500.000	2233.333	N/A	1	15
Year house built	2004.624	2005.410	0.465	109	212
Date household head began living in current location	1995	1990	0.027*	71	203

\*p<.10, \*\*p<.05, \*\*\* p<.01

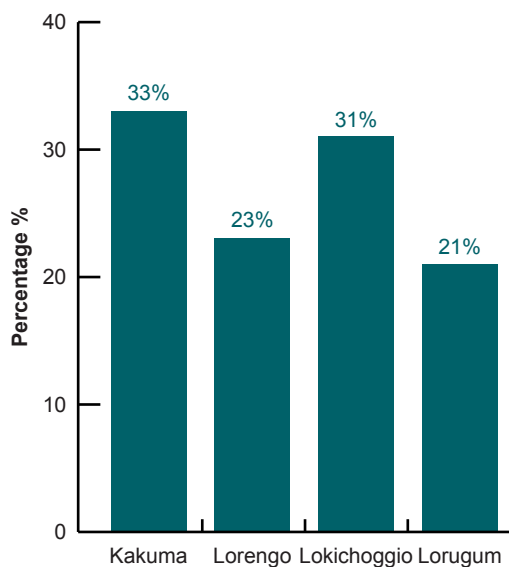
The lower quality of the housing in the Kakuma subsample seems to indicate a higher level of poverty, while the higher level of ownership of homes suggests the opposite. Taken together with the qualitative information, however, the emerging picture is one of refugee arrivals triggering the development of housing and land markets in a region historically defined by traditional pastoral land ownership. Although there are not enough data yet to quantify these effects, overall, the development of such nascent markets suggests potential rents in housing.

### III. Dimension three: The social impact of the refugee presence on the host community

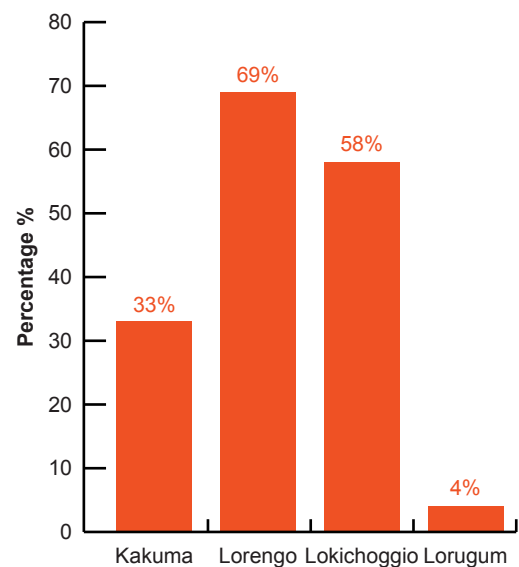
**Result 9: The Turkana have (mostly) positive perceptions of refugees, and these**

**diminish with distance from Kakuma refugee camp.** Although the host community and the refugees have largely coexisted in peace, there are simmering under-currents of tension and violence, largely driven by a general meta-narrative of the refugee as “violent other”. This is a broader narrative that exists across Turkana County and was observed across the four comparative sites (Figure 10).<sup>30</sup> Many informants also reported that the Turkana experience some combination of mistreatment, economic malfeasance, and violence at the hands of refugees when they enter the camp to trade (Figure 11). However, such negative narratives are remarkably unnuanced and nonspecific among the non-Kakuma Turkana than the Kakuma Turkana. Interestingly, and most likely due to the actual complex daily interactions between the Turkana and the refugees of Kakuma, the Kakuma Turkana have more positive perceptions of refugees compared to those farther away (Figure 12). For example, in both Kakuma and Lorengo (25 km from Kakuma) there was actually a higher proportion of respondents who noted more positive refugee impacts (49 percent and 45 percent, respectively) than violence or mistreatment.<sup>31</sup>

**Figure 10:** Proportion of host community reporting negative (non-violent) refugee impacts



**Figure 11:** Proportion of host community reporting refugee violence or mistreatment

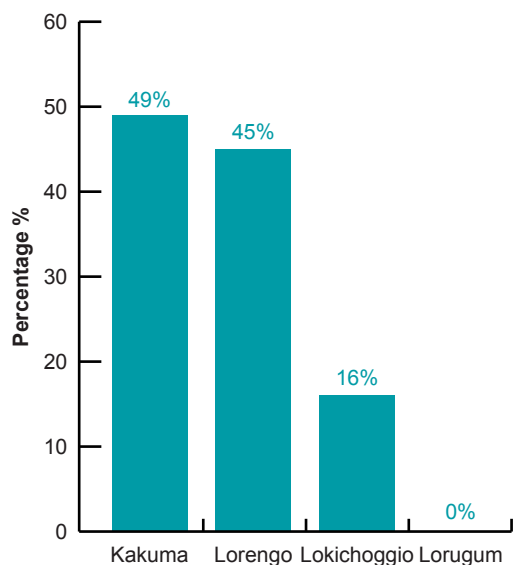


<sup>30</sup> Data regarding refugee-related worries was gathered from the towns of Kakuma, Lorengo, Lokichoggio, and Lorugum, and the ethnographic study focused on the towns of Kakuma, Lorugum, Lodwar, and Lokichoggio. While for the most part, we consider Lokichoggio as a loose future scenario, for purposes of this section, it serves as an example of a market town which reverted to its former economy (and neglect) following the departure of the relief mission and NGOs (between 2006-2008).

<sup>31</sup> In both Kakuma and Lorengo, a high proportion of these positive reports were concerned with trading and other economic opportunities that refugees offer. Specifically, several respondents in both locations reported friendships, employment opportunities, and that the host community sometimes has access to aid and services from NGOs that serve refugees. As with overall positive sentiments, these specific reports declined with increasing distance from the camp. In Lorugum, far from Kakuma, no one reported benefits to the host community or any other positive sentiments about refugees.



**Figure 12:** Proportion of host community reporting positive refugee impacts



In Kakuma and Lorengo, a high proportion of these positive reports were concerned with trading and other economic opportunities that refugees offer. Several also reported having friendships, or at least friendly relationships, with refugees. Others reported that refugees offer employment opportunities—primarily domestic work in refugee homes—and a few noted that the host community sometimes has access to aid and services from NGOs that serve refugees.

Importantly, negative opinions are not directed exclusively at refugees themselves. The bulk of the interviews suggested that the Turkana felt the most animosity towards the political system, or even toward UNHCR and other NGOs that provide aid to refugees in Kakuma, such as the Lutheran World Federation (LWF) and the WFP. The Turkana often feel that these agencies are unjust in their distribution of resources. They frequently cite the long history of marginalization Turkana have experienced, as well as their traditional ownership of the land on which the refugee camp is located, to demonstrate that they deserve attention from international actors in the region. They perceive these organizations to have vast resources at their disposal, and they tend to believe that the decision to prioritize refugees over Turkana is rooted in malice and discrimination.

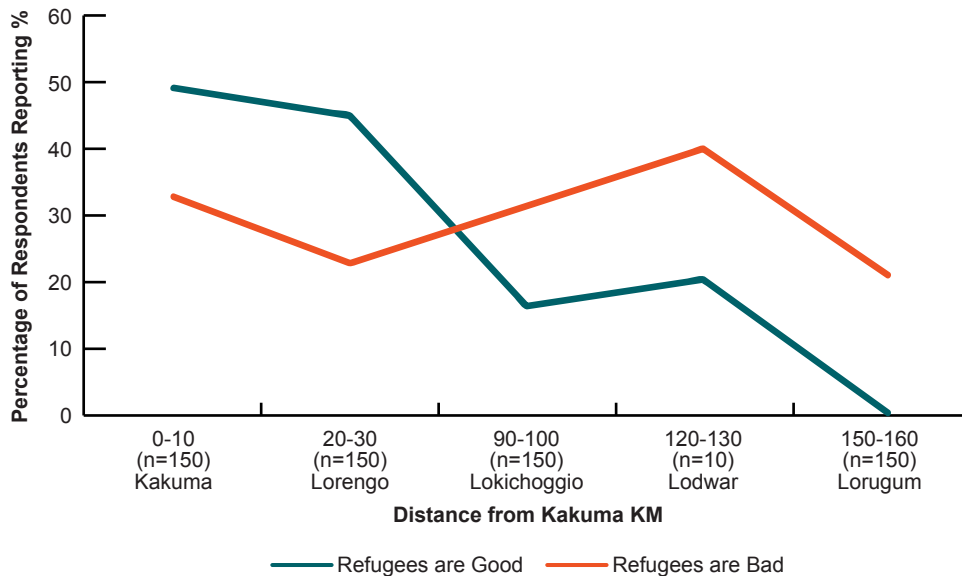
In addition, despite the ubiquity of stories about refugee violence and mistreatment, none of the Turkana interviewed in all four sites claimed first-hand experience of this kind, and only two reported knowing someone who had been victimized by refugees. One of these reports came from a woman in Lorengo who said that her neighbor’s family fell ill after eating food purchased in the refugee camp. She attributed the illness to deliberate poisoning, though no evidence of this was produced. On the whole, most participants, when asked, admit that the stories they have heard about refugee violence are rumors.

The perception analysis clearly reveals that the generic negative perceptions of the ‘refugees as bad’ and “refugees as the *violent Other/foreign usurper*” are roughly

equal across all the sites (including the county capital, Lodwar, where 4 out of 10 informants revealed negative perceptions about the refugees) as seen in Figure 13.

The analysis also shows that both the sophistication and the frequency of the more nuanced narratives and perception of “refugees are good/beneficial” are inversely proportional to the distance from Kakuma refugee camp. The frequency of interactions between hosts and refugees that is directly correlated with distance from the camp also correlates with the complexity of perceptions held by the host community. Hence, the likelihood that a member of the host community has *negative* perceptions of the refugees does not vary significantly with distance. However, the likelihood that a member of the host community has *positive* perceptions of the refugees decreases with the distance from the camp.

**Figure 13:** Trends in positive and negative perceptions of refugees among the Turkana of Kakuma, Lorengo, Lokichoggio, Lodwar, and Lorugum



**Result 10: The refugee presence seems to benefit Turkana women more than Turkana men.** The impacts of the refugee presence and activities on the host community also fall along gender lines for the Turkana. Turkana women benefit the most from the refugee and UN/NGO presence as they are able to develop a diverse subsistence tool-kit that includes providing labor to the refugees (housework, fetching water/food) and goods (charcoal, firewood, agricultural crops such as sorghum) in return for both food and cash, which enables them to feed their children and families. They also report lasting friendships and support networks with the refugees that enable them to access food, shelter, and other services even when the refugees do not require their labor or goods. However, they do experience violence, both in the camp and outside, especially when they forage for firewood. According to the women interviewed from both the refugee and host communities, the primary causes for sexual and structural violence are discrimination on the basis of ethnicity, language,

religion, and health status, as well as access to cash. They also mentioned that, within the patriarchal system found among most groups in the refugee and the host communities, motherhood, which is usually seen as a status-enhancing factor, can in the case of single mothers, become a conduit for stigmatization and exclusion of both the women and their children. Motherhood might also increase the risk of victimhood and/or exploitation as the women who have children at home and need to bring cash or food every day might be less likely to report assaults or discrimination.

Turkana men have a more varied set of interactions with the refugees in that they benefit from providing labor to the refugees and NGOs (as construction workers and security guards, respectively). However, their primary service of providing goods (livestock, charcoal in larger quantities) are controlled by the *nimuchurus*, the brokers who prevent easy access to the men. The Turkana men are more likely to engage in social interactions with the refugees in consumption of the stimulant *miraa* and locally produced alcohol, which often results in violence. They are also more likely than women to produce the narratives of the “refugee as the violent Other”.

**Result 11: The presence of refugees is highly correlated with greater physical well-being of the host community as measured by Body Mass Index and (especially) the Skin Fold measurements.**<sup>32</sup> Nutritional data on height and weight (mass) measurements were used to calculate BMI (= body mass (kg)/(height/m<sup>2</sup>)). According to the WHO, the average BMI for women and men is 19.2 and 18.2, respectively, and the underweight threshold for women and men is <19.5 and <18.5, respectively. As seen in Table 6, the average BMI for both men and women was higher in Kakuma (presence of refugees) and Lorugum (presence of development) than at Lorengo or Lokichoggio (no development).

**Table 6: Average BMI of host community members is higher in Kakuma and Lorugum than at Lorengo or Lokichoggio<sup>33</sup>**

Locations	Men	Women
Kakuma	18.24	19.27
Lokichoggio	18.05	19.14
Lorengo	18.21	18.63
Lorugum	18.29	19.61

However, it is worth noting that the overall figures are worrying in terms of the physical well-being and nutritional profiles of the Turkana; the figures suggest that

<sup>32</sup> Body Mass Index (BMI) and Sum-of-Skinfold (SSF) enable the calculation of body fat percentage (BFP). Essential body fat is necessary to maintain life and reproductive functions. While BMI is useful as an approximate indicator of indicators, SSF is seen as a more accurate indicator of BFP. It is based on a skinfold test, also known as a pinch test, whereby a pinch of skin is precisely measured by calipers at several standardized points on the body to determine the subcutaneous fat layer thickness. (Campbell et al. 2005).

<sup>33</sup> These differences are not statistically significant (with the exception of young women in Lorugum and Lorengo (p=0.06).

undernourishment is a normal state of affairs in Turkana County, even in areas where residents enjoy proximity and relatively easier access to relief and development services and resources such as Kakuma and Lorugum. Kakuma has a greater presence of public services due to the presence of the refugees, while Lorugum has benefited from almost 20 years of consistent attention and investment due to the Turkwel Hydroelectric Power Plant, which enables agriculture and more sustainable pastoralism.

Table 7 shows the results of the sum of skinfold (SSF) measurements of 600 respondents from the four sites. These differences are statistically significant for both women ( $p < 0.001$ ) and men ( $p < 0.05$ ). The higher average SSF values at Kakuma and Lorugum suggest that the Turkana residents of these locations have far greater access to nutritional security and health than the Turkana of Lokichoggio and Lorengo. This could be because the Turkana of Kakuma have greater access to food and hence, nutritional security due to the presence of the camp. In the case of Lorugum, it could again be due to the presence of consistent development as a result of the Turkwel Hydroelectric Power Plant, which has led to greater food security.

**Table 7: Average host community SSF measurements are higher at Kakuma and Lorugum, suggesting residents have greater access to nutritional security and health**

Locations	Gender	Average SSF	Standard Deviation
Kakuma	Female	<b>30.85</b>	<b>19.82</b>
	Male	<b>17.02</b>	<b>9.37</b>
Lokichoggio	Female	23.40	12.68
	Male	14.29	2.99
Lorengo	Female	17.57	7.29
	Male	14.09	3.05
Lorugum	Female	<b>33.17</b>	<b>20.68</b>
	Male	<b>16.22</b>	<b>7.45</b>

The results of both the BMI and (especially) the SSF data, controlling for age, gender, livelihood, distance to town centers, and lower BMI and lower Body Fat Content expected among pastoralists, suggest that the host community of Kakuma has better nutritional access/status than those at Lokichoggio or Lorengo, and its results are similar to those of Lorugum. Although this could be due to access to cereals and carbohydrates at Kakuma as opposed to the more meat/milk based diet among pastoralists in more rural areas such as Lorengo, SSF is a well-recognized indicator of energy status, regardless of the diet. Furthermore, higher SSF values, on average, are excellent indicators of access to foods that provide higher energy status. Further, as a caveat, sorghum has always been a staple food for the Turkana (Lamphear 1988; Mirzeler 2009; Wright et al 2015). The Turkana are not cereal averse, they just have culturally modified ways in which older people eschew cereals so that younger people can get access, especially during droughts and famines, a practice confirmed by study respondents across all sites. While more analysis is needed to ascertain this for a fact, including a closer look at diet and water, sanitation, and hygiene (WASH), the presence of refugees at Kakuma seems to be filling a gap

analogous to the development process at Lorugum; the refugee presence is more highly correlated with greater physical well-being of the host community as a result of greater access to food (or cash) in exchange for goods, services, and labor, along with other services, intended for the refugees, that are also available or easily accessible to the host community.

**Result 12: The presence of refugees may lead to differences in psychosocial stress<sup>34</sup> within the host community: Turkana men report more “worries” than women, as do the middle-aged and the elderly.** Each informant was asked to list worries and concerns in their lives without any limitations on the number and without ranking them. These worries were categorized into eight main stressor categories: water, food, health, livestock, environment, economy, refugees, and transportation. The host community was also asked about refugee-related worries and perceptions across all four sites to calculate negative, positive, and neutral perceptions towards the refugees. Figure 14 presents the average number of “worries” as an indicator of psychosocial stress, and figure 15 disaggregates the number of worries as reported by men and women, as well as young, middle-aged, and older adults. The mean number of worries reported is higher in Kakuma (3.72) than any other location (Lokichoggio=2.99; Lorengo=3.36; Lorugum=2.7). This suggests that while Turkana in Kakuma have greater access to food and other resources than in Lokichoggio and Lorengo, the refugee camp presents variation in the type of psychosocial stress that is significantly greater than these two sites, and also (but not substantially) Lorugum, again suggesting that refugee presence is analogous to the development process in Lorugum.

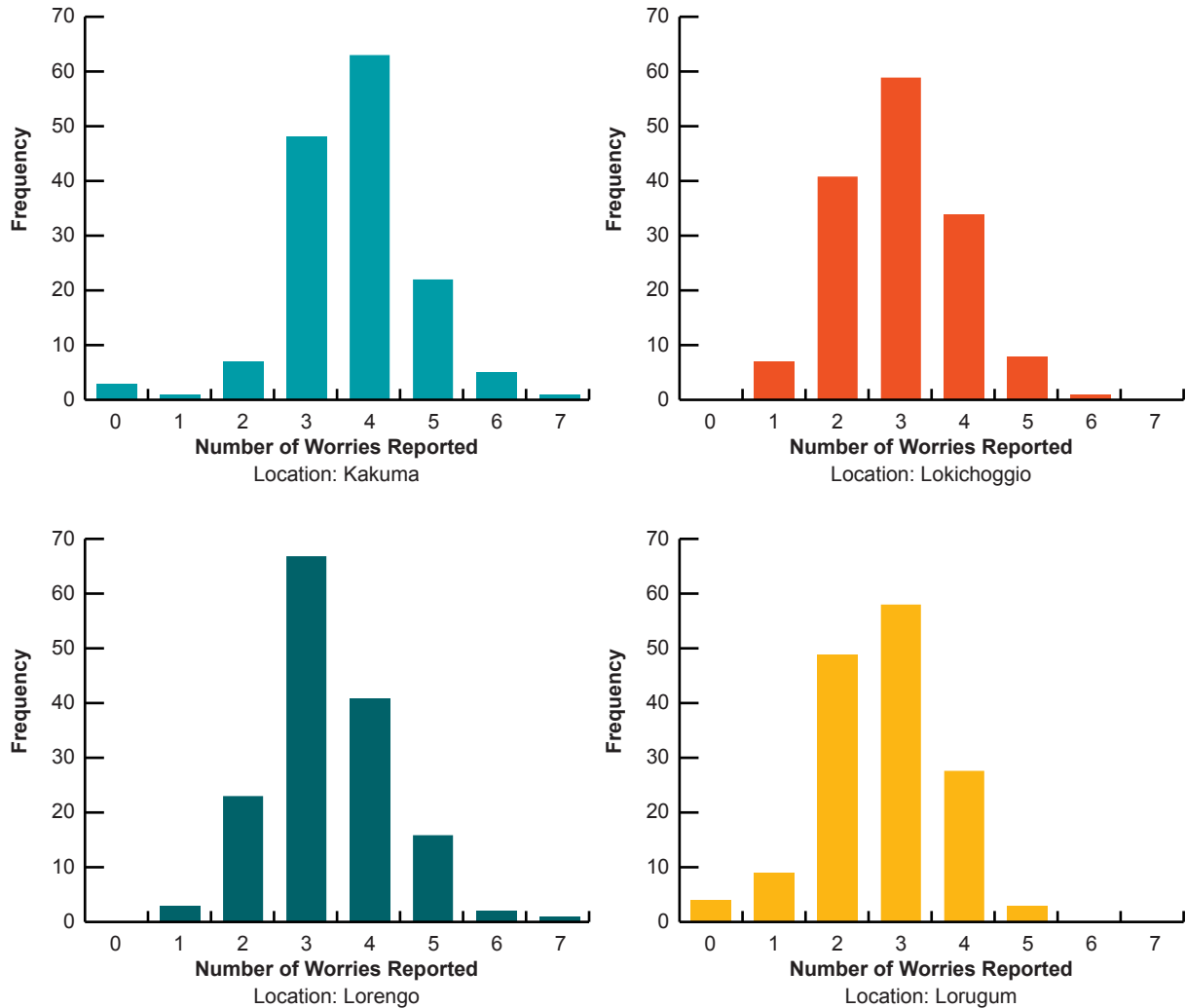
As seen in these figures, on average and proportionally, Turkana men report more negative and fewer positive interactions with the refugees than Turkana women. Men also report more systemic problems than women. In terms of age, younger Turkana have more positive interactions with the refugees, while the middle-aged and older Turkana report relatively fewer positive experiences with refugees and slightly more proportions and averages of negative interactions.

These collective findings<sup>35</sup> suggest that the Turkana of Lorugum and Kakuma show a greater proportion of worries dealing with jobs, unemployment, education, and school fees – worries that would only emerge when such opportunities exist within the area. The presence of development in both areas might explain why the residents of Lorugum and Kakuma share these worries with other groups across Kenya. On the other hand, worries over ill health, thirst, and livestock illness, largely held by older men and women across the four locations, disproportionately affect younger and middle-aged men and women in Lorengo and Lokichoggio.

An additional source of worry for Kakuma residents, which was not formally tested but has been raised by Turkana leaders on a number of occasions, is the

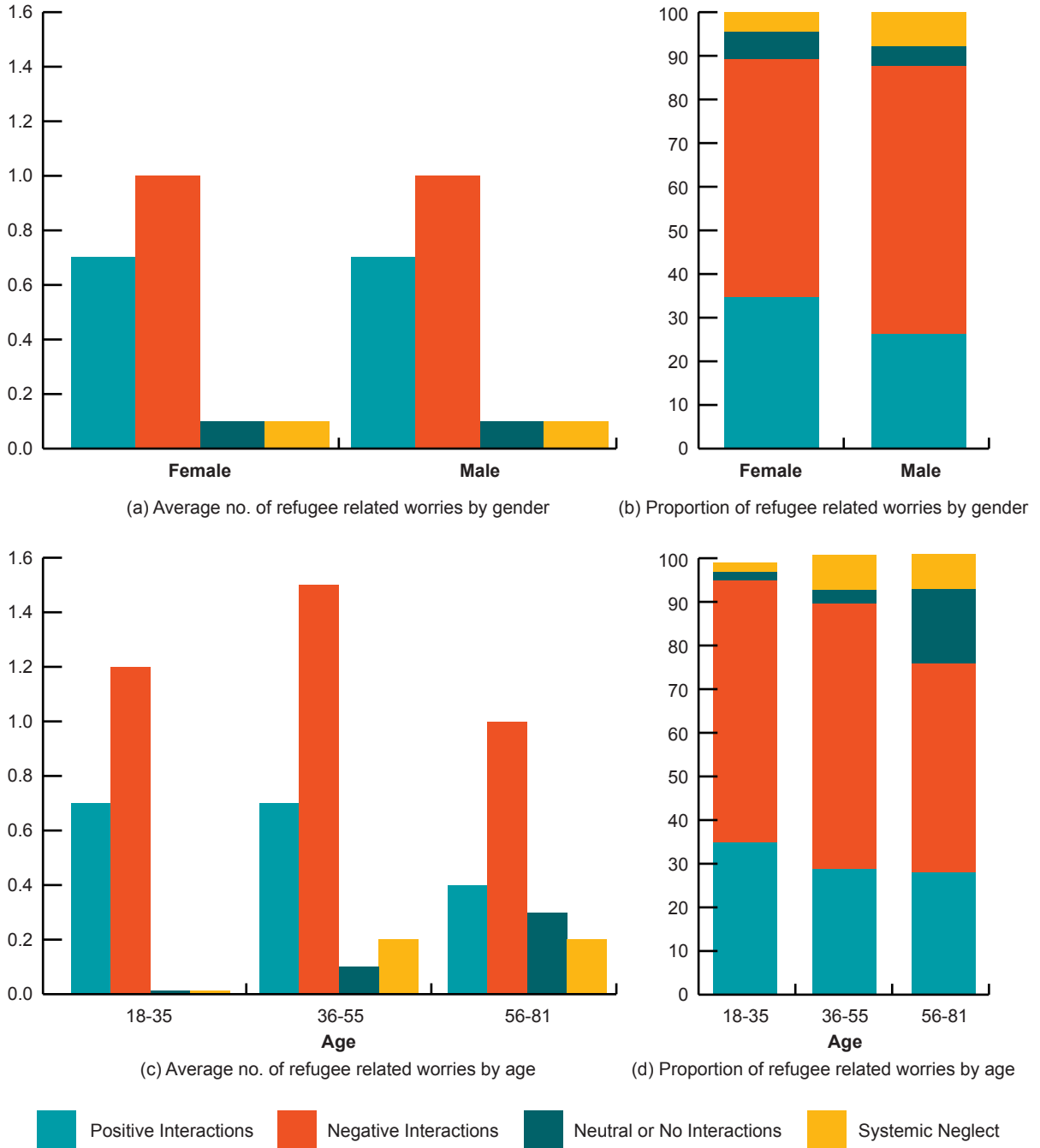
<sup>34</sup> The analysis of the psychosocial stressor data examines different stressor categories: water, food, health, livestock, environment, economy, refugees, and transportation. The larger set of interactions is combined into four categories: positive, negative, neutral, and systemic (relate to broader development issues in Turkana).

<sup>35</sup> Using SSF as a proxy for nutritional status, worry codes were placed into the above stressor categories, which were treated as dummy variables. A series of t-tests were used to assess whether the mean of skinfold sum varied significantly between those who reported worries in a given category and those who did not. Based on these tests, only worries related to health, livestock, and raiding appear to be correlated with nutritional status ( $p < 0.05$ ).

**Figure 14:** Total number of “worries” across locations in Turkana

prevalence of street children in and around the camp and Kakuma Town who are searching for itinerant work. The chief of Kakuma Town identified the proliferation of street children as one of the major issues affecting the Turkana community since these children leave the pastoralist cycle and migrate into Kakuma where they work carrying water jerrycans, shining shoes, and so on. While there is currently no data on the presence of street children and child laborers in Turkana, summary data from a registration census conducted in 2011 by the HSNP helps to corroborate the qualitative impressions we gathered on the ground. These data indicate that Kakuma has a smaller distribution of school-aged children and a larger distribution of children living outside the settlement, thereby providing suggestive evidence of street children as an issue of concern.

**Figure 15: "Worries" among the host community in Kakuma, disaggregated by gender and age**



### Winners and losers: A complex and nuanced picture emerges

The three dimensional analysis and results show that the refugee presence in Kakuma has had a nuanced economic and social impact on host communities – not just in the immediate vicinity, but also in the Turkana County. The impact is generally positive in the aggregate. The refugee presence boosts overall economic activity and is also associated with better nutritional outcomes; however, such impacts are concentrated both spatially and temporally with certain characteristics of the economy, aggravating or mitigating them. Activities in non-tradable sectors benefit, but those in the tradable sectors don't. There is also significant heterogeneity in the impact of the refugee presence on host community incomes and consumption. Households with access to small businesses and farm incomes appear to be better-buffered from short term shocks, while wage-earner and animal-selling households suffer more from them. When it comes to specific markets, the impact on agriculture and housing is positive, but on livestock it is negative. While difficult to assert causality, the presence of refugees seems to be associated with greater physical well-being but not necessarily mental well-being. Also, perceptions do not always match evidence: the sophistication and the frequency of the more nuanced narratives and perception of “refugees are good/beneficial” is inversely proportional to the distance from Kakuma refugee camp. In addition, there is no clear evidence to suggest that the refugee presence has pushed populations away or pulled them in.

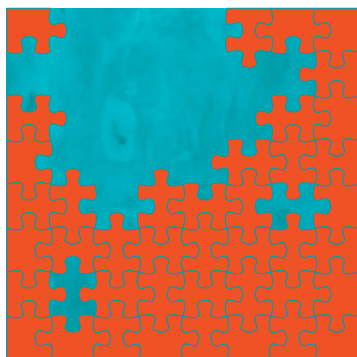
Before we turn to the next chapter – of what the economy would look like under various policy scenarios – there are three important reminders that need be kept in mind.

First, the eclectic methodologies from which these results are derived come with important caveats (as discussed in the previous chapter). Second, these impacts – both the scale and the distribution – are shaped by policy choices and the historical, cultural and institutional environment, in particular, the norms and rules that regulate interactions between refugees and host communities. Finally, the choice of where to locate a refugee camp is arguably the most important choice that dictates these impacts. Refugee camps, almost by definition, are located in peripheral, marginalized areas with poor connectivity and infrastructure. It is places like Kakuma and Mbera, and not Kuala Lumpur or Manhattan where refugees are settled. Since host governments are essentially giving up land that could be used for their own benefit, the land allocated for refugees does not tend to be of the highest quality. Kakuma and Dadaab are obvious examples, and Prouse de Montclos and Kagwanja (2000) describe the reasoning:

“The government feared that the refugees might become settled in valuable areas of the country, especially in the highlands. Accordingly, the Kakuma and Dadaab camps were located in a semi-arid environment with a density of less than 0.05 inhabitants per hectare, compared with 5 in rural districts like Kisii.” (Werker 2007).

Thus, equal attention needs to be paid in developing such areas. As alluded to in other parts of the report, devolution and natural resources are potential game changers that can shape the future of Kakuma, Turkana, and indeed Kenya's future. But can refugees also play a role in shaping Turkana's future? Relying primarily on our simulation model, we assess these possibilities in the following chapter.





## 5. “What if?”

### From Encampment to Decampment

---

**F**or Kenyan policy makers, the key question is how to maximize the (economic) benefits of the presence of refugees while minimizing the costs. Is this best done by preserving the status quo (encampment)? Or by absorbing refugees within the Kenyan economy (economic integration, limited or full)? Or even, as is currently the case, by suddenly closing down the camp and moving refugees out of Kenya– the “Not in my Back Yard” – i.e. decampment – scenario?

In this chapter, we provide a forward-looking comparison among these alternative options. Starting with encampment as the baseline, we develop and assess three alternative options in terms of their transitory and permanent effects on host community welfare.

#### I. What if...policy scenarios

We simulate the effects of three “What if” policy scenarios regarding refugee settlements. Encampment, the status quo, is the baseline, and is the state where all refugees are confined in the camp, have no legal permits for work outside the camp, receive some transfers in the form of international aid and remittances, and consume both tradable and non-tradable goods in Turkana. These three policy scenarios are explained below:

1. **Limited (economic) integration scenario (LIS):** What if, starting today, only skilled refugees are allowed to work outside the camp, anywhere in Kenya? Unskilled refugees remain in the camp, and both refugee types continue to receive the same levels of transfers (aid and remittances).

2. **Full (economic) integration scenario (FIS):** What if, starting today, all refugees, skilled and unskilled, are granted legal permits to live and work anywhere in Kenya. In order to focus on the effects of integration, we assume that refugees continue to receive the same level of transfers in the form of remittances and aid. However, we also show that gains from integration are primarily driven by market mechanisms by comparing the two cases of full economic integration – one where refugees continue

to receive the same level of transfers, and one where transfers cease to exist after full economic integration.

3. **Decampment scenario (DS):** What if, starting today, Kakuma refugee camp is shut down, and all refugees are suddenly moved to other countries (be it their countries of origin or third countries). This is the immediate camp closure scenario.

The effects of these three scenarios are measured against the encampment baseline. In particular, effects are measured by changes in aggregate income, prices, and wages in the host community and in the rest of Kenya. Before delving into results, what should one intuitively expect, temporally and spatially?

Temporally, given that refugees constitute approximately one fifth of Turkana’s population, we expect that their participation in the work force in *all three scenarios* ought to create major ripple effects (especially in the full integration scenario). These effects, though, are most felt in the immediate, short-term. In the long-term, as labor becomes mobile and is gradually absorbed by the rest of Kenya, these effects become diffused over time.

Spatially, we expect the effects to be concentrated in the order of Kakuma, Turkana, and then the rest of Kenya. The effect on the rest of Kenya ought to be marginal at best. This is because the entire refugee population of Kakuma constitutes less than half a percent of the Kenyan population, and the economy of Turkana is itself a tiny fraction of Kenya’s.

## II. Simulation Results

The simulation results of these three scenarios are summarized in the tables 8 and 9, followed by an interpretation. For a more detailed breakdown of the results, refer to Appendix B and the background report on the economic impacts, which provides an in-depth discussion on these results and the implications of changes in assumptions.

*1. On income: Integration boosts local income for about 25 years; decampment reduces it permanently.*

Both economic integration scenarios (limited and full) boost per capita income in Turkana – the key summary economic activity indicator – during the transition. In the case of limited economic integration, the Gross Regional Income per local person (GRIplp) rises by 1.6 percent. Full economic integration leads to an even greater increase of a 6.1 percent in GRIplp. This effect tapers off, however, going back to zero in the medium term, and to a small negative effect in the long-term for Turkana as economic gains are diffused in the rest of Kenya (as labor migrates from Turkana to the rest of Kenya). Although permanent effects on GRIplp are small in Turkana, there are substantial transitory gains for about 25 years during the run up to a new equilibrium.

In contrast, decampment, i.e. closing the camp today, leads to permanent income loss in Turkana. Shutting down the camp and moving all the refugees out of Kenya’s borders imposes a negative demand shock in Turkana’s economy. As a result, there is a permanent reduction of 3.3 percent in Turkana’s Gross Regional Product (GRP).<sup>36</sup>

<sup>36</sup> To put this into perspective, a simple calculation can be used to provide dollar-based magnitudes of impact. Bundervoet et al (2015) estimated the Gross Regional Product in Turkana to be \$270 million in 2013 (in 2005 dollars). Thus, a 3.3 percent loss is equivalent to about \$8.9 million. Assuming a population of 1.2 million locals, this translates to an approximate \$7.5 loss per person per year (in 2005 dollars).

**Table 8: Macroeconomic effects on Turkana under the three scenarios; the full economic integration scenario is the most favorable<sup>37</sup>**

	INTEGRATION/ DECAMPMENT YEAR	+5 YEARS	+10 YEARS	+15 YEARS	+20 YEARS	+30 YEARS	+50 YEARS
<b>Turkana: Gross Regional Product (GRP)</b>							
<i>(Percentage change from initial equilibrium)</i>							
Limited integration	<b>4.7</b>	0.1	-0.3	-0.4	-0.4	-0.4	-0.4
Full integration	<b>15.1</b>	0.3	-2.1	-2.7	-2.8	-2.9	-2.9
Decampment	<b>-2.6</b>	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3
<b>Turkana: Employment (locals only)</b>							
<i>(Percentage change from initial equilibrium)</i>							
Limited integration	<b>-0.8</b>	-1.2	-0.8	-0.6	-0.5	-0.4	-0.4
Full integration	<b>-3.6</b>	-7.0	-5.2	-3.9	-3.3	-2.9	-2.8
Decampment	<b>-1.2</b>	-2.7	-2.8	-2.8	-2.8	-2.8	-2.8
<b>Turkana: Gross Regional Income (GRI)</b>							
<i>(Percentage change from initial equilibrium)</i>							
Limited integration	<b>0.8</b>	-1.6	-1.1	-0.7	-0.6	-0.5	-0.5
Full integration	<b>2.3</b>	-5.3	-4.7	-3.9	-3.6	-3.3	-3.3
Decampment	<b>-2.6</b>	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3
<b>GRI per local person (GRI/lp)</b>							
Limited integration	<b>1.6</b>	-0.5	-0.3	-0.2	-0.1	-0.1	-0.1
Full integration	<b>6.1</b>	1.9	0.5	0.0	0.3	-0.4	-0.5
Decampment	<b>-1.4</b>	-0.6	-0.5	-0.5	-0.5	-0.5	-0.5
<b>Non-tradable prices</b>							
Limited integration	<b>2.3</b>	-0.6	-0.8	-0.9	-0.9	-1.0	-1.0
Full integration	<b>7.1</b>	-3.5	-5.3	-5.9	-6.1	-6.3	-6.3
Decampment	<b>-10.3</b>	-6.8	-6.5	-6.5	-6.5	-6.5	-6.5

<sup>37</sup> These simulation results depict the scenarios if the Kenyan Government changes its refugee policy to economic integration or decampment.



With labor moving out to other regions, the GRIplp initially decreases by 1.4 percent, and then stabilizes on a 0.5 percent loss in the long term.<sup>38</sup>

*2. On prices: Prices in Turkana surge temporarily with integration but collapse with decampment.*

In both economic integration scenarios, the price of non-tradables in Turkana initially increases (2.3 percent and 7.1 percent in LIS and FIS, respectively) and then falls below integration levels in the long term. This initial surge in prices comes from the fact that with more purchasing power, refugees consume more. Over time, however, with gradual reallocation of labor, the pressure is eased, and prices fall back to levels lower than before the integration.<sup>39</sup>

In contrast, decampment leads to a complete loss of demand that was generated by the refugees. As a result, relative prices fall by 10.3 percent initially and stabilize at a 6.5 percent lower level in the long-term. Decampment thus leads to a fall in prices both in the short and long- terms.

*3. On the rest of Kenya: Integration (marginally) increases economic activity in Kenya in the long-term.*

Integrating refugees boosts economic activity across Kenya. In the short-term, economic integration creates a temporary boom in Turkana’s economy. However, as both refugees and locals move to other regions in search of higher wages, Turkana’s GRP decreases (by 0.4 percent in LIS and 2.9 percent in FIS in the long-term). In both cases, the fall in economic activity is driven by a shrinking non-tradable sector. As labor moves out to other regions, local demand for non-tradables decreases, forcing a decrease in production. In the meantime, other regions in Kenya enjoy increases in economic activity as measured by an increase in GRP (0.1 percent in LIS and 0.4 percent in FIS). The price effects on the rest of Kenya are positive but insignificant.<sup>40</sup>

In contrast, the effect of decampment on the rest of Kenya is marginal as measured by the change in GRP. This is as expected, given the entire refugee population of Kakuma constitutes less than half a percent of the Kenyan population and the economy of Turkana is itself a tiny fraction of Kenya’s.

*4. On wages: All three scenarios lead to a decline in real wages in Turkana but the magnitude depends on the skill set of refugees being integrated and channels of impact.*

Figure 16 shows the dynamics of real wages in Turkana. Integrating refugees in the labor force increases the labor supply thereby pushing down wages in the short term.<sup>41</sup> The largest of these declines, about 18 percent, occurs in the tradable sector. It

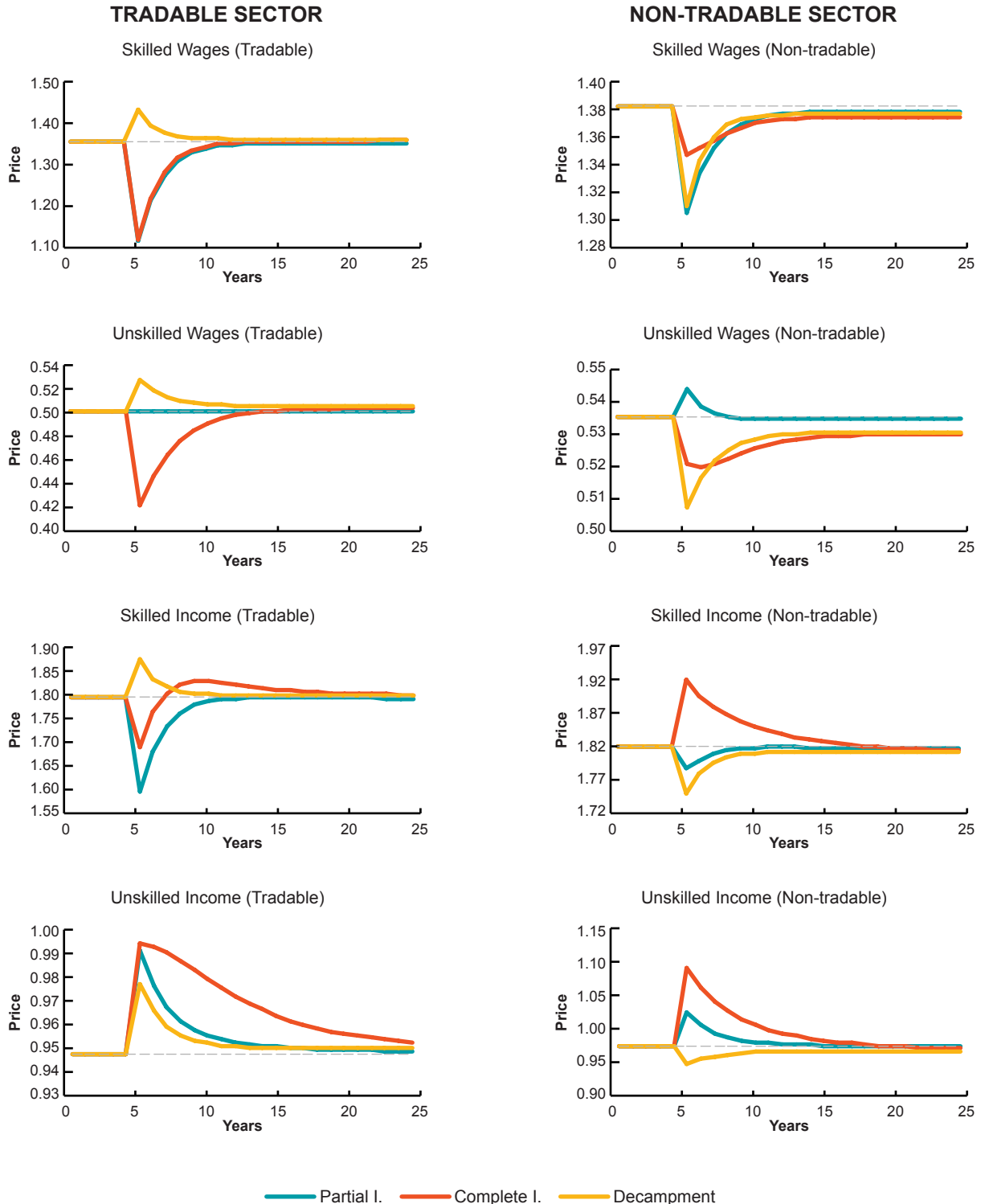
<sup>38</sup> Interestingly, both the FIS and DS scenarios have similar effects on long-term income (reducing it). GRP decreases significantly in both scenarios (-2.9 percent in FIS and -3.3 percent in DS). GRIplp also registers a small decrease (both -0.5 percent) in the long-term. However, the difference is that decampment decreases GRP and GRIplp even in the short-term (-2.6 percent and -1.4 percent), whereas FIS increases it substantially (+15.1 percent and +6.1 percent). So, decampment leads to a significant loss in both short and longer term welfare.

<sup>39</sup> This follows from the fact that refugees, who were consuming both tradable and non-tradable goods while in the camp in Turkana, move to other regions.

<sup>40</sup> This is because labor movement out of Turkana is small compared to the rest of Kenya’s population. Prices of non-tradable goods in the rest of Kenya increase by just less than half a percent.

<sup>41</sup> In the long-term, real wages converge back to their initial levels in Turkana. This is because Turkana represents a small part of Kenyan economy, with or without refugees. Thus, any large deviations from Kenyan averages are corrected by labor movements in the long term. Likewise, the effects on real wages in the rest of Kenya are small, often less than a percent.

**Figure 16:** The effects of alternative integration policies on real wages and incomes in Turkana



is worth emphasizing that the effect on local real wages depends on the skill set of refugees who join the labor force. When only skilled refugees are integrated, they increase productivity and wages of unskilled workers (“complementarity effect”). This is because these two types of workers are imperfect substitutes in production. But they also reduce the wages of skilled workers (because of perfect substitutability – “competition effect”). When all refugees join the labor force, as in the FIS, both channels operate for all skill groups and the net effects vary. Figure 16 shows that in the FIS, the complementarity effect dominates the competition effect.

While wages also decline in the case of decampment, the channels of impact are different. With a sudden fall in demand upon the departure of all refugees, prices drop in non-tradable sectors, pulling down wages. In tradable sectors, however, there is no demand side effect. Thus, nominal wages are initially not affected, but with a sharp decrease in non-tradable prices, they increase in real terms. This is corrected over time with labor movements and rebalancing in relative prices.

### III. Integration lessens the burden of aid, reduces market imperfections, and incentivizes skills acquisition

Encampment, the status quo, concentrates both gains and losses in the vicinity of the camp, which reduces potential aggregate gains for the rest of the economy outside Kakuma, while increasing gains for those in the vicinity of the camp. Integrating refugees into the economy generates positive economic effects in aggregate terms and also diffuses such effects across all regions in Kenya. Limited integration does this partially. In contrast, decampment leads to both a permanent income loss in Turkana and a collapse in prices.

As alluded to earlier, these impacts and results are highly contingent on institutional and market factors such as transfers (aid and remittances), market power, and skills acquisition.

First, transfers that refugees receive are crucial for the positive impact of refugees on the local economy. If refugees are not allowed to join the labor force, their contributions to the local economy, those that occur via market mechanisms, are limited to their exchange of goods and services with locals. Without transfers, they do not have any purchasing power to transact, let alone having a means to survive. Therefore, transfers are life-giving as the status quo prevails, and are also an integral part of magnifying the positive impact of refugees in the economic integration scenarios.

But can refugees continue to contribute positively to host economies in the absence of such transfers, in particular, aid? Although aid received by refugees adds to their positive impact, the positive impact remains when aid is phased out after integration. Table 10 shows the effects of full integration on GRP and relative prices when transfers to refugees cease five years after integration. Comparing these results with those in tables 8 and 9 reveals the similarity between the integration-with-aid and integration-without-aid cases. Overall, differences are within a tenth of a percentage point margin in the short-term and long-term, and less than a percentage point in the few years after the aid ceases. For the rest of Kenya, the differences are rounded up to zero, and the gross output increases by 0.4 percent in the long term under both scenarios. In other words, aid complements and magnifies the effects of

refugees, but the bulk of the results are driven by labor market participation.<sup>42</sup>

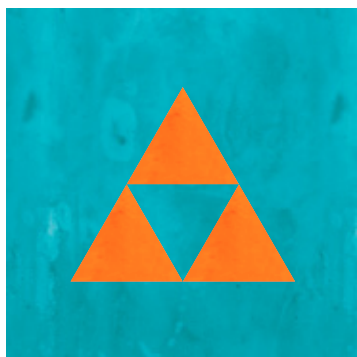
Second, market imperfections further concentrate refugee-related rents in the hands of small interest groups. Overall, encampment creates rents. Thus, insufficient competition in markets such as retail, land, housing, and livestock in the vicinity of the camp could reallocate some of these rents disproportionately towards those who control the businesses (at the expense of the total benefits that could be received by the society at large). Indeed, we find that in Turkana, there are signs of such market power. For example, another background study for this report (Oka, 2016) suggests the presence of a small group of highly influential traders in the Kakuma market, and a cartel-like sub-network comprising of these 3-5 traders operating continuously within Kakuma between the years 2005 and 2015. Similarly, there are only two bus companies that have operated between Kakuma and Nairobi. Moreover, high transportation costs also strengthen the concentration of rents by leading to supply bottlenecks and reducing the mobility of labor.

Third, restrictions on refugee employment and mobility change refugees' incentives for acquiring skills. The absence of employment prospects diminishes refugees' incentives to develop their skills as manufacturers, traders, and merchants. These induced distortions not only deprive the Turkana region of valuable human capital (some refugees have more marketable skills than the host population in this remote and impoverished part of Kenya), but also generate an unhealthy local dependence on the refugee camp (not as a source of growth but of monopoly rents). The local population may also suffer from distorted incentives. The extra monopsony power of the host region buyers and their consequent improved terms of trade with refugees further reduce the locals' incentive to develop their skills. Hence the barriers to integration reduce skill development in the Turkana region as well. As a result, the two-way dependence, that is refugees' dependence on aid and locals' dependence on refugees, becomes a self-enforcing, low level equilibrium. Integration then becomes a self-evident win-win.

---

<sup>42</sup> This raises the question of who should receive aid: refugees or the host government? One option is that once integration takes place, aid that goes to the refugees could be centralized in the hands of local authorities to provide support with possible costs borne by hosting refugees. Beyond direct fiscal costs borne by the host government, which could be substantial and ought to be covered by foreign aid, another background paper for report discourages such motives of centralization (Behzadan et al, 2016). This is because remittances and direct aid to refugees are typically more successful in actually finding their ways into the hands of refugees as compared to official foreign aid that trickles down from the top. In addition, the marginal propensity to consume non-tradable goods and services increases with income. Thus, aid that flows directly to beneficiaries becomes more welfare-enhancing.





## 6. The Three Takeaways

---

**W**e began this report by observing that this is a crucial time of an unprecedented global refugee crisis. Worldwide displacement is currently at an all-time high as war and persecution increase; one in every 113 people is now either a refugee, internally displaced, or seeking asylum. And while refugees are in the headlines now, they’ve been on Kenya’s agenda for decades. Indeed, with over half a million registered refugees, Kenya is the second largest refugee-hosting country in Africa (after Ethiopia). Despite their economic promise and resilience, countries like Kenya are becoming the unintended “shock absorbers” for the growing conflict, insecurity, and weak governance in neighboring countries.

In this context, our report comes at an opportune time. It goes beyond rhetoric and provides an original and evidence-based analysis of the impact of refugees in Kenya’s Kakuma refugee camp (in Turkana County), home to about a third of all refugees hosted by Kenya. The three takeaways relate to our attempt to answer the following questions: First, what is the social and economic impact of the refugee presence on the host community in Turkana and rest of Kenya? Second, how can the positive impacts of refugees be magnified while reducing the negative impacts? And third, what is the appropriate role of the international community in terms of supporting host countries?

***Takeaway #1: More boom, less gloom: The refugee presence in Kakuma has an overall beneficial and permanent impact on Turkana’s economy, boosting Turkana’s Gross Regional Product (GRP) by over 3 percent and increasing total employment by about 3 percent.***

The refugee presence also increases consumption, self-reported incomes, and asset ownership of the host Turkana population. For example, consumption measures within 5 km of the camp are up to 35 percent higher than in other parts of the county. Those who live close to the camp tend to have higher income and assets (Kakuma residents are four times more likely to own a bicycle than non-Kakuma residents). And while difficult to assert causality, the presence of refugees is associat-

ed with greater physical well-being (but not necessarily mental well-being). The average body mass index (BMI) and sum of skinfold (SSF) values for both men and women was higher in Kakuma (presence of refugees) and Lorugum (presence of development) compared to Lorengo or Lokichoggio (no development), suggesting that the Turkana residents of these locations have far greater access to nutritional security and health.

However, these impacts are nuanced, and concentrated both spatially and temporally, with certain characteristics of the economy, aggravating or mitigating them. Activities in non-tradable sectors benefit, but those in the tradable sectors don't. In the long-term, income in non-tradable sectors grows by over 7 percent, whereas it shrinks by about 7 percent in tradable sectors. There is also significant heterogeneity in the impact of the refugee presence on host community incomes and consumption. Households with access to small businesses and farm incomes appear to be better-buffered from short term shocks, while wage-earner and animal-selling households suffer more from them.

When it comes to specific markets, the impact on agriculture and housing is positive, but livestock, the main livelihood of the Turkana region, is adversely affected though it is difficult to draw firm conclusions regarding a pastoralist and mobile population. Also, perceptions do not always match evidence: the sophistication and the frequency of the more nuanced narratives and perception of “refugees are good/beneficial” is inversely proportional to the distance from Kakuma refugee camp. And some findings are ambiguous; for example, there is no clear evidence to suggest that the refugee presence has pushed populations away or pulled them in.

In the end, who benefits and who loses is also driven by the public policies of the host country. With proper mechanisms that reallocate some of the gains from the winners to the losers, it is possible that everybody can benefit from the refugee presence. However, in the absence of such mechanisms, which is typically the case, there will be groups of host community members who are negatively affected in net terms.

It is worth emphasizing that the impacts measured are (deliberately and narrowly) focused on the host community, and they do not capture welfare gains derived from refugees being in a safer place, with protection from armed conflict and persecution. Moreover, we measure impact only on one side of the border and don't account for welfare gains derived from refugees earning incomes once they return to their home country (or third country). If these effects were incorporated, aggregate welfare gains for all populations are likely to be higher.

***Takeaway #2: The verdict is out: Economic integration trumps decampment (the sudden closure of the camp). Economic integration, which increases per capita host incomes by a (non-trivial) 6 percent, is the appropriate policy for maximizing the beneficial impact of refugees.***

While there are caveats regarding the simulative magnitude of impacts and welfare gains (as noted in the report), the direction of effects is robust and positive. Economic integration, even if limited, if it were to begin today, maximizes welfare gains. Moreover, these gains last for over two decades. On the other hand, decampment, i.e. camp closure and sudden departure of all refugees – reduces per capita host incomes permanently and also causes a collapse in prices. It is worth emphasizing that by “integration”, we mean economic integration, whereby refugees are

viewed as economic actors participating in the economy (as opposed to being made permanent citizens of Kenya). We also find that aid complements and magnifies the positive effect of refugees, and refugees can still continue to contribute positively in the absence of it. Such economic integration also has the added benefit of better preparing refugees for repatriation by virtue of them being able to make positive contributions once they return. And taking a broader view of integration, such a policy may even help promote peace and prosperity in an increasingly regionally integrated East Africa, one in which Kenya shows admirable leadership.

***Takeaway #3: Turning the tide: Help develop Turkana. Both – benefitting refugees and benefitting from refugees – suggests developing Turkana, and a more meaningful role for the international community.***

Within Turkana, the refugee presence benefits hosts and vice-versa. However, the impact of the refugee presence on the rest of Kenya is negligible. Similarly, benefits of integration are blunted because of market imperfections in Turkana and disincentives for skills acquisition in the host community. Both these findings are unsurprising as Turkana itself represents a miniscule share of Kenya’s economy. Turkana’s negligible contribution to the national economy has to be understood in the context of the region’s history. The Turkana know that they have been neglected and discriminated against, struggling with endemic structural violence stemming from their low position in the Kenyan social, economic, and political hierarchy. However, the wind of change appears to be blowing; apart from dealing with the influx of more than 100,000 people into Kakuma in the past five years, the Turkana community is also dealing with recent changes in governance infrastructure, including devolution, and the discovery of oil and fresh water aquifers.

This, then, has implications for the international community, particularly those actors who (genuinely) want to help refugees. It is worth emphasizing that impacts – in terms of both scale and distribution – are shaped by policy choices and the historical, cultural, and institutional environment. The choice of where to locate a refugee camp is arguably the most important choice that dictates these impacts. Refugee camps, almost by definition, are located in peripheral, marginalized areas with poor connectivity and infrastructure. It is places like Kakuma and Mbera, and not Kuala Lumpur or Manhattan, where refugees are settled. So, equal attention needs to be paid in developing such areas, and the message then becomes clear: If you want to help the Kakuma refugees, help develop Turkana. However, the role has to be a more meaningful one as it necessitates a shift from short-term emergency financing to long-term development financing. The line between humanitarian and development aid is an increasingly thin and blurry one.

The interaction between the refugees and their Turkana hosts is a vibrant one. Moreover, it is not just economic; it is also social and cultural, including intermarriages between the host and refugee communities. Such interactions need to be capitalized upon rather than penalized. With the confluence of natural resource discoveries in Turkana, the potential of devolution, and more meaningful engagement of the international community, it is opportune to transition from the classic, and arguably dismal phenomenon of NIMBY (Not in my backyard), to a bold and fresh phenomenon of YIMBY--Yes, in my backyard.



# Appendices

## Appendix A: Economic impacts of the refugee presence in Kakuma on the host community

**Table 10:** There is significant heterogeneity within the host community in terms of consumption and assets

	ASSETS 2005	INCOME PER CAPITA	CHANGE ASSETS	PURCHASE FOODS APRIL	PURCHASE LUXURIES APRIL	CHANGE FOOD PURCHASES	CHANGE LUXURY PURCHASES	CHANGE SUGAR PURCHASES	CHANGE TEA PURCHASES	CHANGE MEAT PURCHASES
<b>Small business</b>										
In Kakuma subsample	0.2440	0.8867	-0.1829	0.1663	0.0949	-0.5385**	0.0233	-0.1757**	-0.1776**	-0.1090*
	(0.2114)	(0.8112)	(0.1140)	(0.3773)	(0.1431)	(0.2492)	(0.1198)	(0.0706)	(0.0788)	(0.0599)
Household owns small business	0.4492***	4.2828***	-0.4237*	0.3387	0.2837*	0.1866	0.0515	0.0513	0.0080	0.0306
	(0.0628)	(0.9063)	(0.2234)	(0.2082)	(0.1410)	(0.1291)	(0.0818)	(0.0526)	(0.0319)	(0.0313)
Has enterprise x Kakuma	-0.1832	-0.1007	0.3744	-0.0852	-0.0533	0.4822**	0.0242	0.2489*	0.1140*	0.0919**
	(0.2196)	(1.1071)	(0.2546)	(0.3951)	(0.3111)	(0.2147)	(0.2147)	(0.1351)	(0.0569)	(0.0410)
N	330	330	330	330	330	330	330	330	330	330
r2	0.016	0.204	0.008	0.006	0.016	0.064	0.002	0.093	0.023	0.024
<b>Wage earner</b>										
In Kakuma subsample	0.0842	-0.0207	-0.0723	-0.0408	-0.0218	-0.3582	0.0283	-0.0841	-0.1467	-0.0439
	(0.1829)	(0.5348)	(0.0659)	(0.2851)	(0.1238)	(0.2555)	(0.0879)	(0.0577)	(0.0858)	(0.0689)
Household had wages in past year	0.9294***	5.2161***	-0.3492***	0.8580***	0.2720	0.5012***	0.1394	0.0371	0.0308	0.1951***
	(0.2231)	(0.5982)	(0.0689)	(0.1519)	(0.1774)	(0.1202)	(0.1459)	(0.0603)	(0.0596)	(0.0423)
Wage earner x Kakuma	-0.0008	0.0730	0.4756**	0.6117*	0.3070	-0.6096***	-0.0782	-0.1973***	-0.0082	-0.3395***
	(0.2655)	(0.6474)	(0.1873)	(0.3229)	(0.2514)	(0.1983)	(0.1487)	(0.0617)	(0.0912)	(0.0871)
N	330	330	330	330	330	330	330	330	330	330
r2	0.099	0.201	0.006	0.103	0.057	0.011	0.001	0.021	0.009	0.024

	ASSETS 2005	INCOME PER CAPITA	CHANGE ASSETS	PURCHASE FOODS APRIL	PURCHASE LUXURIES APRIL	CHANGE FOOD PURCHASES	CHANGE LUXURY PURCHASES	CHANGE SUGAR PURCHASES	CHANGE TEA PURCHASES	CHANGE MEAT PURCHASES
<b>Sold animals</b>										
In Kakuma subsample	0.0322	-0.1085	0.0375	0.0625	0.0529	-0.3466	-0.0202	-0.0793	-0.1058	-0.0968
	(0.2497)	(0.3849)	(0.0599)	(0.3840)	(0.1168)	(0.3272)	(0.0928)	(0.0743)	(0.1243)	(0.0655)
Sold animals on market	-0.2851	2.8137***	0.0809	-0.9190***	-0.0727	0.4548*	0.2216*	0.2414***	0.2253*	0.0061
	(0.1655)	(0.1291)	(0.0627)	(0.2288)	(0.1126)	(0.2473)	(0.1051)	(0.0761)	(0.1224)	(0.0710)
Sold animals x Kakuma	0.5504	0.2901	-0.2720***	0.5358	-0.0368	-0.5780	0.0980	-0.2586*	-0.2840	0.0395
	(0.5445)	(0.5860)	(0.0801)	(0.4892)	(0.2005)	(0.3994)	(0.1158)	(0.1336)	(0.2511)	(0.0749)
N	330	330	330	330	330	330	330	330	330	330
r2	0.012	0.089	0.012	0.012	0.003	0.012	0.034	0.008	0.013	0.006
<b>Sold farm products</b>										
In Kakuma subsample	0.0956	-0.0831	-0.0232	0.0415	0.0080	-0.4058	0.0327	-0.1176**	-0.1438*	-0.0825
	(0.1437)	(0.4670)	(0.0567)	(0.3488)	(0.1140)	(0.2643)	(0.1083)	(0.0458)	(0.0773)	(0.0729)
Sold farm products in market	-0.9012***	4.1709***	-0.1193***	-1.8514***	-0.6005***	0.0355	-0.3061***	0.6898***	-0.3180***	-0.1467***
	(0.0643)	(0.3043)	(0.0290)	(0.1191)	(0.0513)	(0.1025)	(0.0342)	(0.0304)	(0.0303)	(0.0153)
Sold farm products x Kakuma	1.1047**	-1.8936**	0.1808**	2.1883***	0.8059***	-0.2086	0.2278	-0.6460***	0.2930***	0.1076
	(0.4056)	(0.6439)	(0.0810)	(0.3922)	(0.1655)	(0.1315)	(0.1738)	(0.1189)	(0.0443)	(0.0840)
N	330	330	330	330	330	330	330	330	330	330
r2	0.005	0.032	0.001	0.005	0.007	0.011	0.001	0.007	0.009	0.005

**Table 11: The Patterns of livestock economy: Kakuma vs. other towns**

	(1) HAS ANIMALS	(2) Ln (LIVESTOCK CARED FOR)	(3) Ln (LIVESTOCK OWNED)	(4) PROB (LIVESTOCK STOLEN)	(5) Ln (LIVESTOCK SOLD)	(6) Ln (VALUE ANIMALS IN CARE)	(7) Ln (VALUE ANIMALS OWNED)	(8) Ln (VALUE ANIMALS SOLD)
a. Difference across subsamples								
In Kakuma subsample	0.0527	0.6547	0.1122	0.0833*	0.0734*	2.0260*	0.4101	1.283
	(0.0876)	(0.4732)	(0.4272)	(0.0459)	(0.0405)	(0.9430)	(0.7088)	(1.2050)
N	330	154	154	154	154	154	154	154
r2	0.001	0.007	0	0	0	0.011	0.002	0.005
b. Averages by distance band and subsamples								
Less than 2 km to town	0.2674***	1.5027***	2.5987***	0.3888***	0.5964***	5.4744***	9.6417***	1.2645***
	(0.0441)	(0.2398)	(0.3860)	(0.0319)	(0.0374)	(0.1845)	(0.7018)	(0.0356)
Between 2 and 8 km from town	0.4443***	2.9126***	3.7280***	0.3599***	0.5540***	8.4901***	11.5531***	5.5049***
	(0.0678)	(0.0102)	(0.1033)	(0.0338)	(0.0644)	(0.2735)	(0.1038)	(1.6294)
Between 8 and 10 km from town	0.8053***	2.8437***	3.7662***	0.4993***	0.7709***	8.7966***	11.5422***	5.1682***
	(0.0216)	(0.2377)	(0.1816)	(0.0512)	(0.1129)	(0.7505)	(0.4663)	(0.6603)
Less than 2 km to Kakuma	0.1018	1.0797***	0.5379	0.1529**	0.1361*	3.0915***	1.1637	2.9795***
	(0.0708)	(0.3316)	(0.4438)	(0.0588)	(0.0660)	(0.4011)	(0.7540)	(0.3895)
Between 2 and 8 km to Kakuma	0.0172	0.2715*	-0.2589**	0.0568	-0.0064	1.2345**	-0.2513	-0.4878
	(0.1178)	(0.1330)	(0.1057)	(0.0895)	(0.1430)	(0.4712)	(0.1422)	(1.6336)
Between 8 and 10 km to Kakuma	-0.1053	0.1301	-0.5360**	-0.1421	-0.2281	0.2228	-1.1473	-0.8624
	(0.0841)	(0.2950)	(0.2114)	(0.1321)	(0.2316)	(1.3572)	(1.0050)	(0.7539)
N	330	154	154	154	154	154	154	154
r2	0.419	0.661	0.814	0.49	0.435	0.757	0.948	0.48

Panel a shows the weighted t-test of key outcomes in the livestock module of the household survey. Panel b shows regressions without a constant with the full set of dummy variables indicating the distance strata for Kakuma and the counterfactual towns. This specification means that each coefficient represents the mean of the outcome variable for a given distance and location, tested against the hypothesis of zero. The coefficients indicating distance to Kakuma give the additional effect of being at a particular distance from town in the Kakuma subsample.

## Appendix B: Simulation Results

**Table 12:** Macroeconomic effects under the Limited Integration Scenario (LIS) are mostly favorable

		BEFORE INTEGRATION	INTEGRATION YEAR	+5 YEARS	+10 YEARS	+15 YEARS	+20 YEARS	+30 YEARS	+50 YEARS
	<i>(Percentage change from initial equilibrium)</i>								
<b>TURKANA</b>									
Gross Regional Product (GRP)	0.0	4.7	0.1	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4
Tradable	0.0	6.9	1.2	1.1	1.1	1.2	1.2	1.2	1.2
Non-tradable	0.0	4.0	-0.3	-0.7	-0.8	-0.9	-0.9	-0.9	-0.9
Employment (locals only)	0.0	-0.8	-1.2	-0.8	-0.6	-0.5	-0.4	-0.4	-0.4
Tradable	0.0	-1.6	-1.1	0.0	0.5	0.8	0.9	0.9	0.9
Non-tradable	0.0	-0.5	-1.2	-1.1	-1.0	-0.9	-0.9	-0.9	-0.9
Gross Regional Income (GRI)	0.0	0.8	-1.6	-1.1	-0.7	-0.6	-0.5	-0.5	-0.5
GRI per local person (GRI lp)	0.0	1.6	-0.5	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1
Non-tradable prices	0.0	2.3	-0.6	-0.8	-0.9	-0.9	-1.0	-1.0	-1.0
<b>REST OF KENYA</b>									
Gross Regional Product (GRP)	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Tradable	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Non-tradable	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Employment (locals only)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tradable	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Non-tradable	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Gross Regional Income (GRI)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
GRI per local person	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-tradable prices	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Notes: Gross Regional Income (GRI) is defined as Gross Regional Product minus the wage bill of refugees.



**Table 13:** Macroeconomic effects under the Full Integration Scenario (FIS) are even more favorable

		BEFORE INTEGRATION	INTEGRATION YEAR	+5 YEARS	+10 YEARS	+15 YEARS	+20 YEARS	+30 YEARS	+50 YEARS
	<i>(Percentage change from initial equilibrium)</i>								
<b>TURKANA</b>									
Gross Regional Product (GRP)	0.0	15.1	0.3	-2.1	-2.7	-2.8	-2.9	-2.9	
Tradable	0.0	21.6	7.4	7.0	7.4	7.7	7.8	7.9	
Non-tradable	0.0	12.9	-2.0	-5.1	-6.0	-6.3	-6.4	-6.5	
Employment (locals only)	0.0	-3.6	-7.0	-5.2	-3.9	-3.3	-2.9	-2.8	
Tradable	0.0	-6.5	-6.3	0.2	3.6	5.1	6.0	6.2	
Non-tradable	0.0	-2.6	-7.2	-7.0	-6.5	-6.2	-6.0	-6.0	
Gross Regional Income (GRI)	0.0	2.3	-5.3	-4.7	-3.9	-3.6	-3.3	-3.3	
GRI per local person (GRI lp)	0.0	6.1	1.9	0.5	0.0	-0.3	-0.4	-0.5	
Non-tradable prices	0.0	7.1	-3.5	-5.3	-5.9	-6.1	-6.3	-6.3	
<b>REST OF KENYA</b>									
Gross Regional Product (GRP)	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	
Tradable	0.0	0.0	0.3	0.3	0.2	0.2	0.2	0.2	
Non-tradable	0.0	0.0	0.4	0.5	0.5	0.5	0.5	0.5	
Employment (locals only)	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.1	
Tradable	0.0	0.1	0.0	-0.3	-0.4	-0.4	-0.5	-0.4	
Non-tradable	0.0	0.1	0.3	0.3	0.3	0.3	0.3	0.3	
Gross Regional Income (GRI)	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	
GRI per local person	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	
Non-tradable prices	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	

Notes: Gross Regional Income (GRI) is defined as Gross Regional Product minus the wage bill of refugees.

**Table 14: Macroeconomic effects under the Decampment Scenario (DS) are not favorable**

		BEFORE DECAMPMENT	DECAMPMENT YEAR	+5 YEARS	+10 YEARS	+15 YEARS	+20 YEARS	+30 YEARS	+50 YEARS
	<i>(Percentage change from initial equilibrium)</i>								
<b>TURKANA</b>									
Gross Regional Product (GRP)	0.0	-2.6	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3
Tradable	0.0	5.6	7.6	7.7	7.7	7.7	7.7	7.7	7.7
Non-tradable	0.0	-5.3	-6.8	-6.9	-6.9	-6.9	-6.9	-6.9	-6.9
Employment (locals only)	0.0	-1.2	-2.7	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8
Tradable	0.0	2.8	6.4	6.7	6.7	6.8	6.8	6.8	6.8
Non-tradable	0.0	-2.5	-5.8	-6.1	-6.1	-6.1	-6.1	-6.1	-6.1
Gross Regional Income (GRI)	0.0	-2.6	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3
GRI per local person	0.0	-1.4	-0.6	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Non-tradable prices	0.0	-10.3	-6.8	-6.5	-6.5	-6.5	-6.5	-6.5	-6.5
<b>REST OF KENYA</b>									
Gross Regional Product (GRP)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tradable	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Non-tradable	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Employment (locals only)	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Tradable	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Non-tradable	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Gross Regional Income (GRI)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GRI per local person	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-tradable prices	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Notes: Gross Regional Income (GRI) is defined as Gross Regional Product minus the wage bill of refugees. In the case of decampment, since no refugees work before or after decampment, both concepts are equivalent.

## List of References

---

- Agier, Michel. (2002). "Between War and City: Towards an Urban Anthropology of Refugee Camps." *Ethnography*, 3(3), 317-341.
- Agier, Michel. (2011). *Managing the Undesirables: Refugee Camps and Humanitarian Government*.
- Akabwai, D. M. (1992). "Extension and Livestock Development: Experience from among the Turkana Pastoralists of Kenya." London: Overseas Development Institute.
- Alix-Garcia, J., A. Bartlett, and D. Saah. (2012). 'Displaced Populations, Humanitarian Assistance and Hosts: A framework for Analyzing Impacts on Semi-urban Households', *World Development* 40, 373–386.
- Anderson, D. M., and V. Broch-Due. (2000). *The Poor are Not Us: Poverty and Pastoralism in Eastern Africa*. James Currey Ltd.
- Artuç, Erhan, Shubham Chaudhuri, and John McLaren. (2008). "Delay and Dynamics in Labor Market Adjustment: Simulation Results." *Journal of International Economics*, Elsevier, vol. 75(1), pages 1-13, May.
- Artuç, Erhan, Shubham Chaudhuri, and John McLaren. (2010). "Trade Shocks and Labor Adjustment: A Structural Empirical Approach." *American Economic Review*, American Economic Association, vol. 100(3), pages 1008-45, June.
- Aukot, Ekuru. (2003). "It Is Better to Be a Refugee Than a Turkana in Kakuma: Revisiting the Relationship between Hosts and Refugees in Kenya." *Refuge: Canada's Journal on Refugees*, 21(3).
- Avery, Sean. (2012). "Lake Turkana and the Lower Omo: Hydrological impacts of major dam and irrigation developments." African Studies Centre, the University of Oxford.
- Bartolomei, Linda, Eileen Pittaway, and Emma Elizabeth Pittaway. (2003). "Who Am I? Identity and Citizenship in Kakuma Refugee Camp in Northern Kenya." *Development*, 46(3), 87-93.
- Behzadan, Nazanin, Richard Chisik, Harun Onder, and Apurva Sanghi. (2016). "Aid, Remittances, and the Dutch Disease." Working Papers 062, Ryerson University, Department of Economics.
- Beswick, S. (2006). "If You Leave Your Country You Have No Life!" Rape, Suicide, and Violence: The Voices of Ethiopian, Somali, and Sudanese Female Refugees in Kenyan Refugee Camps." *Northeast African Studies*, 8(3), 69-98.
- Betts, Alexander, Louise Bloom, Josiah Kaplan, and Naohiko Omata. (2014). *Refugee Economies: Rethinking Popular Assumptions*. Humanitarian Innovation Project, Refugee Studies Centre, University of Oxford.
- Brainard, J. (1986). "Differential Mortality in Turkana Agriculturalists and Pastoralists." *American Journal of Physical Anthropology*, 70(4), 525-536.
- Broch-Due, Vigdis. (2000). "The Fertility of Houses & Herds: Rethinking Pastoralism in Africa." 165-185.
- Bundervoet, T., L. Maiyo, and A. Sanghi. (2015). Bright Lights, Big Cities (No. 22922). The World Bank.

- Bush, J. (1995). "The Role of Food Aid in Drought and Recovery: Oxfam's North Turkana (Kenya) Drought Relief Programme, 1992-94." *Disasters*, 19(3), 247-259.
- Campbell, B., P.B Gray, and P. Leslie. (2005). "Age-related Changes in Body Composition among Turkana Males of Kenya." *American Journal of Human Biology*, 17(5), 601-610.
- Chang, C., and H.A Koster. (Eds.). (1994). *Pastoralists at the Periphery: Herders in a Capitalist World*. University of Arizona Press.
- Chkam, H. (2016). "Aid and the Perpetuation of Refugee Camps: The Case of Dadaab in Kenya 1991-2011." *Refugee Survey Quarterly*, hdw005.
- Crisp, J. (2003). "No Solution in Sight: The Problem of Protracted Refugee Situations in Africa." Center for Comparative Immigration Studies.
- Collins, R. O. (2006). "The Turkana Patrol of 1918 Reconsidered." *Ethnohistory*, 53(1), 95-119.
- De Matteis, Alessandro. (2010). *Market Analysis to Assist Selection between Response Options in Conditions of Food Insecurity*. Diss. School of International Development, University of East Anglia.
- De Montclos, Marc-Antoine Perouse, and Peter Mwangi Kagwanja. (2000). "Refugee Camps or Cities? The Socio-economic Dynamics of the Dadaab and Kakuma camps in Northern Kenya." *Journal of Refugee Studies*, 13(2), 205-222.
- Fratkin, Elliot. (1986). "Stability and Resilience in East African Pastoralism: The Rendille and the Ariaal of Northern Kenya." *Human Ecology*, 14(3), 269-286.
- Fratkin, Elliot, Kathleen A. Galvin, and Eric Abella Roth. (1994). *African Pastoralist Systems: An Integrated Approach*. Lynne Rienner Publishers Inc.
- Fratkin, Elliot. (1997). "Pastoralism: Governance and Development Issues." *Annual Review of Anthropology*, 235-261.
- Galaty, J. G., and P. Bonte. (1991). *Herders, Warriors, and Traders: Pastoralism in Africa*. Westview Press.
- Gifford-Gonzalez, D. (1998). "Early Pastoralists in East Africa: Ecological and Social Dimensions." *Journal of Anthropological Archaeology*, 17(2), 166-200.
- Grabska, K. (2011). "Constructing 'Modern Gendered Civilised' Women and Men: Gender-Mainstreaming in Refugee Camps." *Gender & Development*, 19(1), 81-93.
- Grawert, E. (2010). *After the Comprehensive Peace Agreement in Sudan*. Boydell & Brewer.
- Gulliver, P. H. (1951). *A Preliminary Survey of the Turkana*. Communications from the School of African Studies, University of Cape Town, 26.
- Gulliver, P. H. (1955). *The Family Herds: A Study of the Pastoral Tribes in East Africa, the Jie and Turkana*. Routledge & Kegan Paul.
- Gulliver, P. H. (1958). "The Turkana Age Organization." *American Anthropologist*, 60(5), 900-922.
- Hendrickson, D., R. Mearns, and J. Armon. (1996). "Livestock Raiding among the Pastoral Turkana of Kenya: Redistribution, Predation and the Links to Famine." *IDS Bulletin*, 27(3), 17-30.
- Hilhorst, D., and Bram Jansen. (2010). "Humanitarian Space as Arena: A Perspective on the Everyday Politics of Aid." *Development and Change*, 41(6), 1117-1139.
- Hodgson, D. L. (2000). *Rethinking Pastoralism in Africa*. James Currey Ltd.
- Hogg, R. (1982). "Destitution and Development: The Turkana of North West Kenya." *Disasters*, 6(3), 164-168.
- Hogg, R. (1986). "The New Pastoralism: Poverty and Dependency in Northern Kenya." *Africa*, 56(03), 319-333.

- Horn, R. (2010). “Responses to Intimate Partner Violence in Kakuma Refugee Camp: Refugee Interactions with Agency Systems.” *Social Science & Medicine*, 70(1), 160-168.
- Human Rights Watch. (2002). “Refugees Living Without Protection in Nairobi and Kampala.” <https://www.hrw.org/reports/2002/kenyugan/index.htm#TopOfPage>
- Human Rights Watch. (2015). “There is No Time Left: Climate Change, Environmental Threats, and Human Rights in Turkana County, Kenya.” <https://www.hrw.org/report/2015/10/15/there-no-time-left/climate-change-environmental-threats-and-human-rights-turkana>
- Humphrey, J. H. (2009). “Child Undernutrition, Tropical Enteropathy, Toilets and Handwashing.” *The Lancet* 374: 1032–35.
- International Rescue Committee. (2014). “The Lost Boys of Sudan.” <http://www.rescue.org/blog/lost-boys-sudan>
- Jacobsen, K. (1996). “Factors Influencing the Policy Responses of Host Governments to Mass Refugee Influxes.” *International Migration Review*, 655-678.
- Jacobsen, K. (2002). “Can Refugees Benefit the State? Refugee resources and African Statebuilding.” *The Journal of Modern African Studies*, 40(4), 577-596.
- Jacobsen, K. (2005). *The Economic Life of Refugees*. Kumarian Press.
- Jamal, A. (2000). “Minimum Standards and Essential Needs in a Protracted Refugee Situation: A Review of the UNHCR programme in Kakuma, Kenya.”
- Jansen, B. J. (2008). “Between Vulnerability and Assertiveness: Negotiating Resettlement in Kakuma Refugee Camp, Kenya.” *African Affairs*, 107(429), 569-587.
- Jansen, B. (2009). “The Accidental city: Urbanisation in an East-African Refugee Camp.” *Urban Agriculture Magazine*, 21, 11-12.
- Jones, E. C., and Arthur D. Murphy (Eds.). (2009). *The Political Economy of Hazards and Disasters*. Rowman and Littlefield, MD; Altamira, Walnut Creek, CA.
- Kamau, M., Silove, D., Steel, Z., Catanzaro, R., Bateman, C., & Ekblad, S. (2004). “Psychiatric Disorders in an African Refugee Camp.” *International Journal of Mental Health, Psychosocial Work and Counselling in Areas of Armed Conflict*, 2(2), 84-9.
- Lamphear, J. (1988). “The People of the Grey Bull: The Origin and Expansion of the Turkana.” *The Journal of African History*, 29(01), 27-39.
- Lamphear, J. (1992). *The Scattering Time: Turkana responses to Colonial Rule*. Oxford University Press.
- Lind, J. (2003). “Adaptation, Conflict and Cooperation in Pastoralist East Africa: A Case Study from South Turkana, Kenya.” *Conflict, Security & Development*, 3(3), 315-334.
- Lischer, S. K. (2006). *Dangerous Sanctuaries: Refugee Camps, Civil War, and the Dilemmas of Humanitarian Aid*. Cornell University Press.
- Mahmud, Iffat, and Nkosinathi Mbuya. (2016). Water, Sanitation, Hygiene, and Nutrition in Bangladesh: *Can Building Toilets Affect Children’s Growth?* World Bank Studies. Washington, DC: World Bank. doi: 10.1596/978-1-4648-0698-8.
- Malkki, L. H. (1995). “Refugees and Exile: From “Refugee Studies” to the National Order of Things.” *Annual Review of anthropology*, 495-523.
- Martin, A. (2005). “Environmental Conflict between Refugee and Host Communities.” *Journal of Peace Research*, 42(3), 329-346.
- Mburu, N. (2001). “Firearms and Political Power: The Military Decline of the Turkana of Kenya.” *Nordic Journal of African Studies*, 10(2), 148-162. Murphy 2014
- McCabe, J. T. (1987). “Drought and Recovery: Livestock Dynamics among the Ngison-yoka Turkana of Kenya.” *Human Ecology*, 15(4), 371-389.

- McCabe, J. T. (1990a). "Turkana Pastoralism: A Case Against the Tragedy of the Commons." *Human ecology*, 18(1), 81-103.
- McCabe, J. T. (1990b). "Success and Failure: The Breakdown of Traditional Drought Coping Institutions among the Pastoral Turkana of Kenya." *Journal of Asian and African Studies*, 25(3-4), 146-160.
- McCabe, J. T. (2004). *Cattle Bring Us to Our Enemies: Turkana Ecology, Politics, and Raiding in a Disequilibrium System*. Ann Arbor: University of Michigan Press.
- Mirzeler, M. K. (2009). "Sorghum as a Gift of Self: The Jie Harvest Ritual Through Time." *History in Africa*, 36, 387-419.
- Mogire, Edward. (2013). *Victims as Security Threats: Refugee Impact on Host State Security in Africa*. Routledge.
- Notenbaert, A., P. Thornton, and M. Herrero. (2007). "Livestock Development and Climate Change in Turkana District, Kenya." International Livestock Research Institute, Nairobi.
- Oba, G. (1992). *Ecological Factors in Land Use Conflicts, Land Administration and Food Insecurity in Turkana, Kenya*. London: ODI.
- Ohta, I. (2001). "Motivations, Negotiations, and Animal Individuality." *Nilo-Ethiopian Studies*, 2001(7), 45-61.
- Ohta, I. (2002). "Multiple Socio-economic Relationships Improvised Between the Turkana and Refugees in Kakuma Area, North Western Kenya." The COE International Symposium.
- Ohta, I. (2005). "Coexisting with Cultural "Others": Social Relationships between the Turkana and the Refugees at Kakuma, Northwest Kenya." *Pastoralists and Their Neighbors in Asia and Africa*, 69, 227-239.
- Oka, R.C. (2011a). "Unlikely Cities In The Desert: The Informal Economy As Causal Agent For Permanent" Urban" Sustainability In Kakuma Refugee Camp, Kenya." *Urban Anthropology and Studies of Cultural Systems and World Economic Development*, 223-262.
- Oka, R.C. (2011b). "Trading on Troubled Times: A diachronic comparison of the effects of conflict and exclusion on Trader-Pastoral Relationships in East Africa, ca. 1650-1850 and 1950-2010." Presented at 110th Annual Meeting of the American Anthropological Association, Montreal, Canada, November 16-20, 2011.
- Oka, R. C. (2014). "Coping With the Refugee Wait: The Role of Consumption, Normalcy, and Dignity in Refugee Lives at Kakuma Refugee Camp, Kenya." *American Anthropologist*, 116(1), 23-37.
- Oliver-Smith, A. (1996). "Anthropological Research on Hazards and Disasters." *Annual review of Anthropology* 25: 303-328.
- Omolo, N. A. (2010). "Gender and Climate Change-induced Conflict in Pastoral Communities: Case study of Turkana in Northwestern Kenya." *African Journal on Conflict Resolution*, 10(2): 81-102.
- Phillips, J. (2004). "Challenges to the Effective Implementation of Microfinance Programmes in Refugee Settings." *Forced Migration Review*, 20, 5-8.
- Pike, I. L. (1999). "Age, Reproductive History, Seasonality, and Maternal Body Composition During Pregnancy for Nomadic Turkana of Kenya." *American Journal of Human Biology*, 11(5), 658-672.
- Pike, I. L. (2004). "The Biosocial Consequences of Life on the Run: A Case Study from Turkana District, Kenya." *Human Organization*, 63(2), 221-235.

- Pike, I. L., and S.R. Williams. (2006). "Incorporating Psychosocial Health into Biocultural Models: Preliminary Findings from Turkana Women of Kenya." *American Journal of Human Biology*, 18(6), 729-740.
- Porter, G., K. Hampshire, P. Kyei, M. Adjaloo, G. Rapoo, and K. Kilpatrick. (2008). "Linkages between Livelihood Opportunities and Refugee-host Relations: Learning from the Experiences of Liberian Camp-based Refugees in Ghana." *Journal of Refugee Studies*, 21(2), 230-252.
- Rodrik, D. (2015). *Economic Rules: The Rights and Wrongs of the Dismal Science*. W.W. Norton & Company.
- Roe, E., I. Huntsinger, and K. Labnow. (1998). "High Reliability Pastoralism." *Journal of Arid Environments*, 39(1), 39-55.
- Sanghi, A, S. Ramachandran, A. de la Fuente, M. Tonizzo, S. Sahin, and B. Adam. (2010). *Natural Hazards, Unnatural Disasters: The Economics of Effective Prevention*. United Nations and The World Bank No. 2512. <http://elibrary.worldbank.org/doi/abs/10.1596/978-0-8213-8050-5>
- Sanghi, Apurva. (2015). "The peculiar economics of a refugee camp: 'Yes in my backyard.'" Brookings Blog. <http://www.brookings.edu/blogs/future-development/posts/2015/03/25-economics-refugees-sanghi>
- Sanghi, Apurva, and Harun Onder. (2016). "Kenya got oil: What next?" Beyondbricks Blog, Financial Times.
- Schilling, J., F.E. Opiyo, and J. Scheffran. (2012). "Raiding Pastoral Livelihoods: Motives and Effects of Violent Conflict in North-western Kenya." *Pastoralism*, 2(1), 1-16.
- Simpson, G. L. (1996). "Frontier Banditry and the Colonial Decision-making Process: The East Africa Protectorate's Northern Borderland prior to the First World War." *The International Journal of African Historical Studies*, 29(2), 279-308.
- Smith, M. (2004). "Warehousing Refugees." *World Refugee Survey*, 38, 38-56.
- Sobania, N. (1991). "Feasts, Famines and Friends: Nineteenth Century Exchange and Ethnicity in the Eastern lake Turkana Region." In Galaty, J. G., & Bonte, P. (EDS). *Herders, Warriors, and Traders: Pastoralism in Africa*. Westview Press. PP: 118-142.
- Stave, J., G. Oba, I. Nordal, and N.C. Stenseth. (2007). "Traditional Ecological Knowledge of a Riverine Forest in Turkana, Kenya: Implications for Research and Management." *Biodiversity and Conservation*, 16(5), 1471-1489.
- Tachiiri, K., and I. Ohta. (2004, September). "Assessing Impact of a Large-sized Refugee Camp on the Local Vegetation Condition with Remote Sensing: A case study of Kakuma, Kenya." *Geoscience and Remote Sensing Symposium, 2004 IEEE International*, Vol. 3, pp. 1547-1550.
- UNHCR. (2015). "Worldwide Displacement Hits All-time High as War and Persecution Increase." <http://www.unhcr.org/news/latest/2015/6/558193896/worldwide-displacement-hits-all-time-high-war-persecution-increase.html>
- UNHCR. (2016). *Global Trends: Forced Displacement in 2015*.
- UNHCR. (2016). "Kenya Factsheet-April 2016."
- Veney, C. R. (2007). *Forced Migration in Eastern Africa: Democratization, Structural Adjustment, and Refugees*. Palgrave Macmillan.
- Werker, E. (2007). "Refugee Camp Economies." *Journal of Refugee Studies*, 20(3), 461-480.

- World Bank. (2015). "World Development Report 2015: Mind, Society, and Behavior." <http://www.worldbank.org/en/publication/wdr2015>
- World Bank and UNHCR. (2015). " Forced Displacement and Mixed Migration in the Horn of Africa." [http://www.wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2015/06/30/090224b082fa7f32/1\\_0/Rendered/PDF/Eastern0Africa0n0the0Horn0of0Africa.pdf](http://www.wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2015/06/30/090224b082fa7f32/1_0/Rendered/PDF/Eastern0Africa0n0the0Horn0of0Africa.pdf)
- Wright, D. K., S.L Forman, P. Kiura, C. Bloszies, and A. Beyin. (2015). "Lakeside View: Sociocultural Responses to Changing Water Levels of Lake Turkana, Kenya." *African Archaeological Review*, 32(2), 335-367.









"The question had never occurred to me but it should have: What is the impact of refugee settlements on host nations? With a strenuous effort the authors have come to a conclusion. Fortunately it is positive. We are grateful for all their hard work."

- **Thomas C. Schelling**, *author of "Strategy of Conflict" and Nobel Laureate, 2005*

"This is a fascinating, fine-grained analysis of the impact of refugees in northwest Kenya. The authors innovatively combine economic and ethnographic analysis to draw a richly textured, but overall positive picture of how refugees have improved well-being of their host region."

- **Dani Rodrik**, *Ford Foundation Professor of International Political Economy, Harvard University*

"This is not your usual World Bank/UN report. Thorough and thoughtful analysis provides what initially seems a surprise: a poor, ethnically marginalized and economically isolated community in Kenya benefits from the presence of a decades-old large refugee camp in its midst. The authors are scrupulous; they emphasize the particular context and avoid generalizing. Still their work puts to the lie a simple NIMBY view of the world — whether applied to refugees or other immigrants."

- **Nancy Birdsall**, *President of the Center for Global Development*

"As a former political refugee and one who has visited the Kakuma Refugee Camp as UNHCR Goodwill Ambassador, this report strikes a personal chord clearly vindicating what so many of us have felt in our struggles to live a dignified life: we can contribute to development of our host communities."

- **Ger Duany**, *Actor and Model*