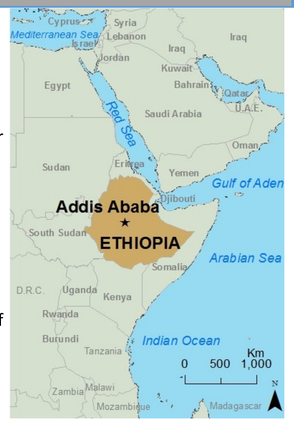
Engaging Diaspora: Housing Developments in Addis Ababa

Introduction

Global remittances are estimated to increase by 8.8% between 2013 and 2015 to approximately US$515 billion by 2015) and remittances to sub-Saharan Africa make up a staggering 2.2% of the region's GDP. Beyond cash transfers, there are various other avenues diaspora use to invest in their home countries including currency accounts, diaspora bonds, investment funds, and real estate. Several states including India and Ethiopia market housing developments specifically to their diaspora. In Ethiopia, 35% of all remittances are sent to Addis Ababa so evaluating the effectiveness of diaspora housing developments is vital.



Addis Ababa, in Ethiopia, is in the midst of building 500,000 new housing units to replace large numbers of the estimated 80% of the city's housing that was considered in slum conditions in the early 2000s. The Government of Ethiopia's (GOE) diaspora housing development program is commonly referred to as the "40/60" program because the diaspora investor is expected to pay the 40% of the cost up-front with the government providing the rest.

This project has two primary goals: 1) to analyze the entire city of Addis Ababa to identify locations that are the most attractive sites for building diaspora housing and 2) to evaluate the effectiveness of two recently completed housing developments, Sengetera and Arat Kilo Basha. Diaspora often to use family or others to maintain their property, these same individuals often receive remittances from the diaspora. Studies show that remittance recipients have a more stable income. Thus, they are likely also to be more reliable clients for things like public utilities and consumption and they almost always invest in real estate. Targeting development on areas where there are remittances' recipients can lead to improved economic and human development indicators as well as a more reliable tax base. Carefully selecting the location will allow the GOE, businesses, and NGOs to plan investments in a deliberate fashion and improve outcomes of these investments.

Methods

Understanding suitability for housing developments requires determining and then ranking resources to consider. Comparing each area and each recently completed development gives context and meaning to the ranking system created.

Step 1: Five qualities of an area were selected to be factors in the ranking methodology used to designate suitability scores. Close proximity to a resource was given a low score, further distances to resources were given a high score.

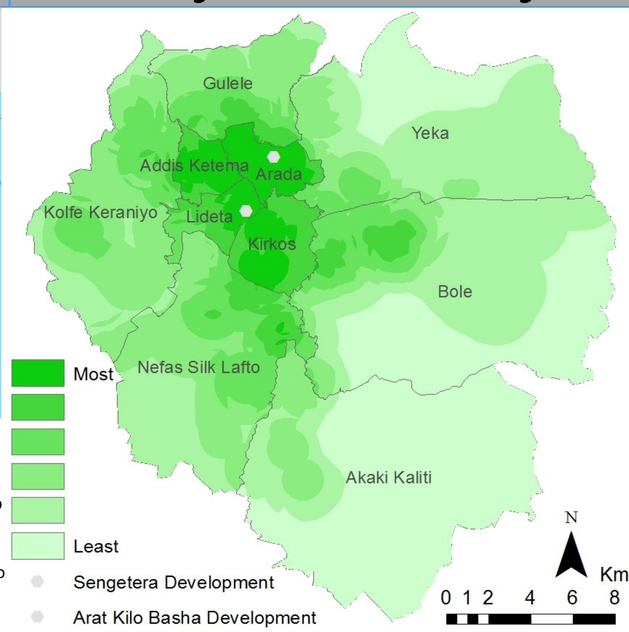
Step 2: For schools, roads, police and financial institutions, the reclassify tool was used to create a five-tier ranking for each resource with the first four classifications representing distances of increments of 500m and the fifth representing all distances equal or greater than 2500m. For population density, the reclassify tool was used to create a five-tier ranking where the first represents the most densely populated areas and last represents the least densely populated.

Step 3: Using the raster calculator in the Spatial Analyst tools, each resource's raster information was weighted to determine ranked suitability based on research of what resources is most appealing to diaspora: Financial institutions were weighted best at (x1), primary roads were weighted second best at (x3), schools and police weighted at (x5) and population density weighted at (x8). This amalgamation resulted in the "City Suitability" map represented on the right.

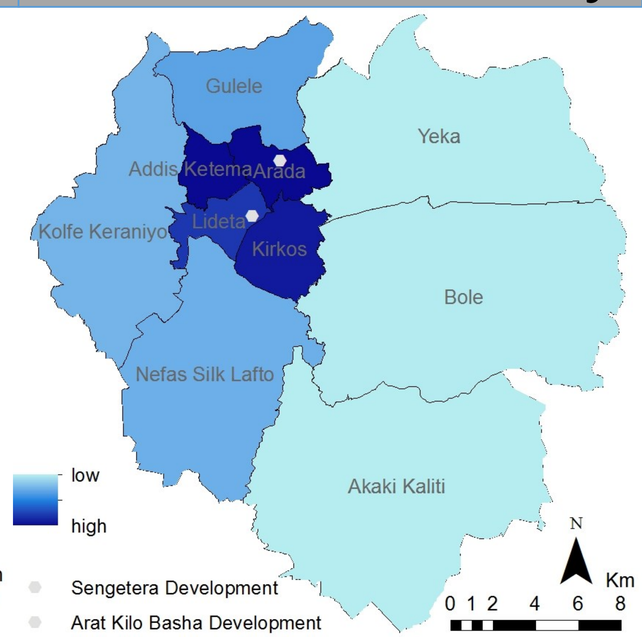
Step 4: Using Zonal Statistics as a Table, the following information used in the graph and chart shown in the top right corner was ascertained: mean, median, range and standard deviation of each Woreda in terms of suitability for housing developments. I repeated this tool to determine the city-wide statistics by aggregating Woreda data through the "dissolve" tool.

Step 5: A suitability map (top right-blue) was created using Woreda boundaries using the same five-tier classification, but strictly within the Woredas. This illustrates the variety of suitability for development within the two Woredas. It also enables identifying the suitability for the two developments highlighted.

City Suitability



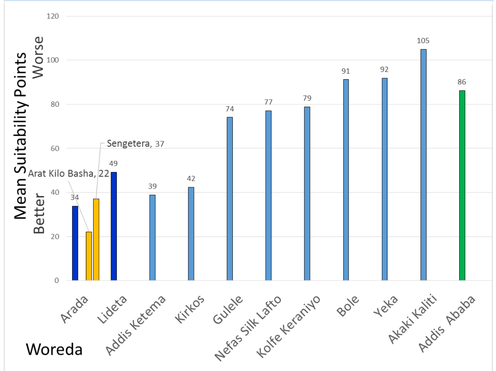
Woreda Suitability



Conclusions

Analysis: The chart to the right demonstrates the variety of suitability within each Woreda. Creating housing developments in a Woreda with a strong mean suitability does not guarantee a successful outcome because of this variation. Each Woreda has unique qualities and internal characteristics, and may have different taxes, codes, etc. that makes building costs and benefits different. Thus, building new developments must consider exact placement within the Woredas.

Comparing Developments' Suitability to Woreda Suitability Means



Dark Blue = Woredas Containing Developments of Interest's Scores
Dark Yellow = Housing Developments of Interest's Scores
Bright Green = City Score

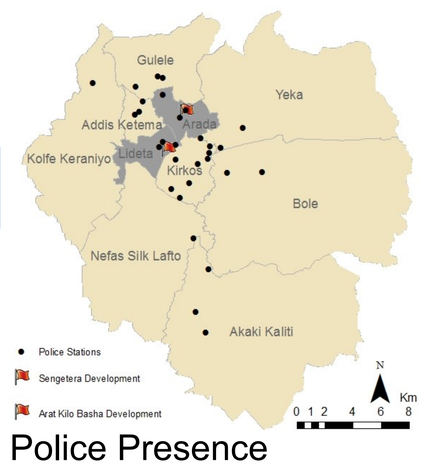
Diversity Within the Woredas

WOREDA	Area (m²)	Min Score	Max Score	Mean Score	Median Score	St. Deviation Score
Kirkos	14,608,700	30	61	42	45	6
Addis Ketema	7,400,500	27	56	39	37	6
Arada	9,906,600	22	59	34	33	7
Kolfe Keraniyo	61,204,400	49	94	79	80	9
Yeka	87,373,400	61	102	92	93	9
Akaki Kaliti	117,987,400	59	110	105	110	10
Lideta	9,167,700	27	67	49	49	10
Gulele	30,159,900	43	91	74	77	12
Nefas Silk Lafto	68,246,300	43	94	77	80	13
Bole	120,519,400	46	102	91	96	14
CITY						
Addis Ababa	526,574,300	22	110	86	90	20

The standard deviation of each Woreda is useful to highlight. Given the lack of population data at a smaller administrative layer, the standard deviation gives planners the ability to consider the risk that a proposed housing development will vary drastically from the Woreda mean suitability.

Limitations: First, data on access to power and water (crucial for potential investment) would strengthen the analysis of this project; this limitation is mitigated but not eliminated by selecting resources that require power and water. Second, a lower-level of demographic information would allow a more detailed analysis at the Woreda level to understand the environment around each development. Third, data is heavily crowd-sourced which makes verification difficult; the road data particularly impairs analysis because it shows gaps in road networks that are implausible due to how the data is compiled.

Overall conclusions: The two housing developments (two of seven built in March 2015) were created in some of the prime locations for diaspora investment. Despite appearing to have similar suitability, Woreda-specific analysis shows that the location of Arat Kilo Basha is better than that of Sengetera. When planning further sites for its housing developments, the Government of Ethiopia should carefully consider the variation within Woredas and extend road and state services to neighborhoods contiguous to areas with high suitability in order to attract diaspora investment and spur economic development.



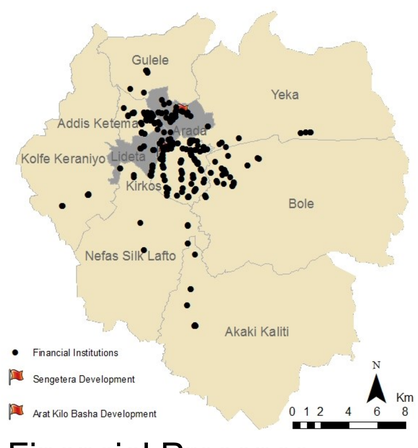
Police Presence

Sengetera Development

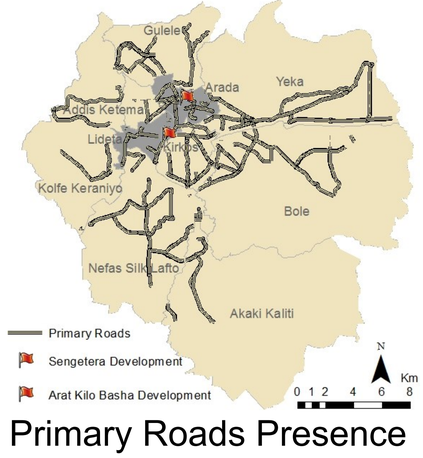
Source: http://mereja.com/forum/viewtopic.php?f=2&t=93118

Arat Kilo Basha Development

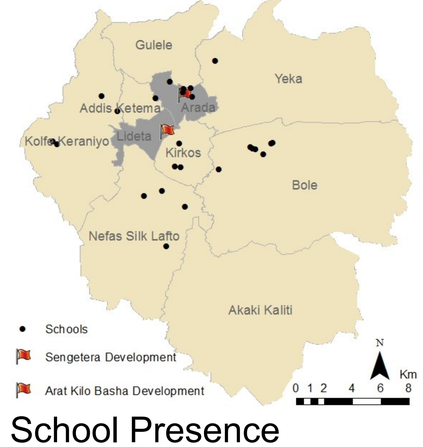
Source: http://addisfortune.com/Vol_12_No_603_Archive/View_From_Arada.htm



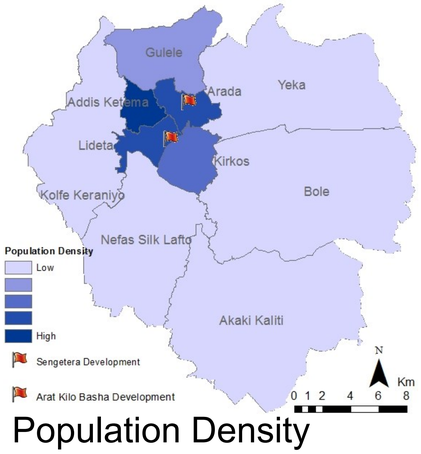
Financial Presence



Primary Roads Presence



School Presence



Population Density

Sources

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Data Sources: *Open Street Map*-www.mapzen.com; *UN Office for the Coordination of Humanitarian Information* Country Office-www.humanitarianresponse.info/en/operations/lebanon/dataset/lebanon-settlements-villages-towns-cities ; *AddisMap*-Community-created Data for Addis Ababa-www.addismap.com; ESRI *ArcGISonline*– east_africa-"East Africa boundaries and some population data"; *Tufts University*-M: Drive (ESRI)

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