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United Nations Institute for Training and Research

**UNOSAT**

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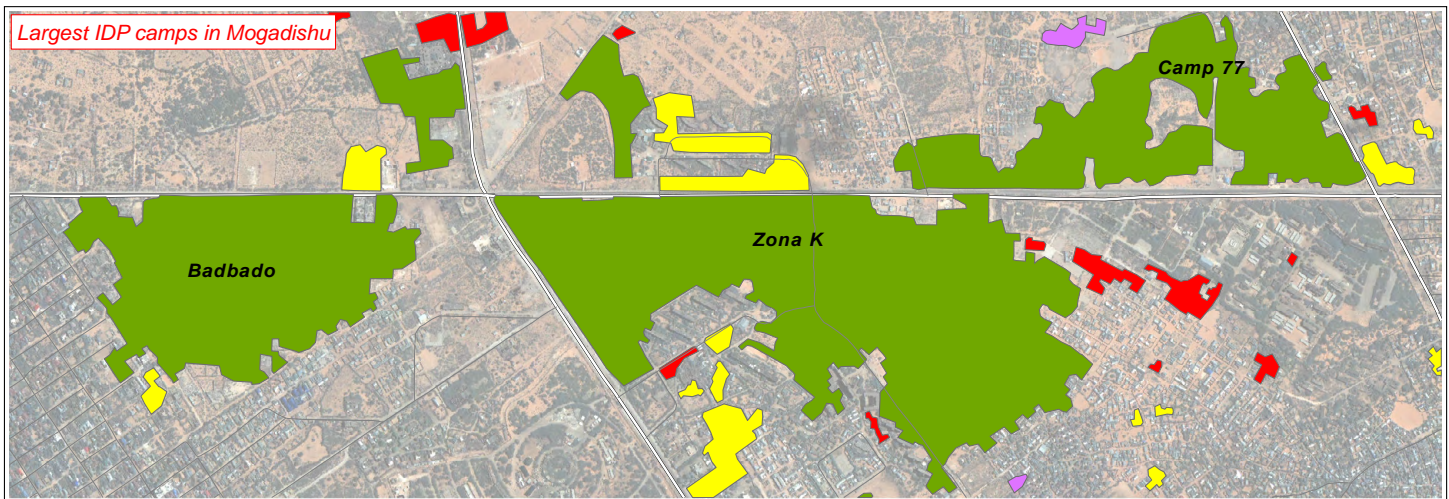


# UPDATE 5: REDUCTION OF SOMALI IDP SHELTER CONCENTRATIONS IN MOGADISHU, SOMALIA (2 MAY 2012 - 3 JUNE 2013)



**Summary:** A total of 379 spatially distinct IDP shelter concentrations were identified as of 3 June 2013 within Mogadishu, representing a decrease of 134 IDP sites since the last UNOSAT analysis which used an image from 2 May 2012. An estimate of the total number of IDP structures located in Mogadishu indicates a minimum figure of at least 61,000 mostly informal shelters. The number of IDP camps has significantly reduced in multiple areas of Mogadishu. This report is the fifth in a series of IDP analyses done by UNOSAT since 2011 and is based on a time-series analysis of shelter concentrations within the city of Mogadishu using multiple satellite images acquired between 30 March 2011 and 3 June 2013. This assessment has not yet been validated in the field. Please send feedback to UNITAR/UNOSAT.

## Report Highlights:



- Open - New
- Open - Expanded
- Open - Contracted
- Open - No Change
- Closed
- Primary Road
- Local / Urban Road

Map Scale for A4: 1:20,000  
0 125 250 375 500 Meters

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Satellite Data: QB / WV01 / WV02 / GE01  
Dates: 30/03/11, 15/4/11, 28/07/11, 21-22/08/11, 4, 12/09/11, 7, 15, 18/10/11, 02/05/12, 3/06/2013  
Resolution: 0.6 m/0.5 m  
Copyright: DigitalGlobe 2012 / GeoEye 2012

Sources: US Department of State, Humanitarian Information Unit, NextView License, EUSI, eGeos  
IDP Camp Data: UNITAR / UNOSAT  
Landcover: UNITAR / UNOSAT  
Road Data: Google Map Maker

Admin Boundaries: OCHA  
Other Data: USGS, NGA, SWALIM  
Analysis: UNITAR / UNOSAT  
Coordinate System: UTM Zone 38N  
Datum: WGS 1984  
Analysis conducted with ArcGIS v10.1

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United Nations Institute for Training and Research

# UNOSAT

19 July 2013 – Update 5

UNOSAT Activation: CE20130710SOM

## Updated Assessment of IDP Shelter Concentrations in Mogadishu, Somalia (as of 3 June 2013)

**PREFACE:** This report provides a detailed analysis of spatially-distinct concentrations of IDP shelters within the urban extent of Mogadishu, and assesses the periods in which the camp sites were likely formed as well as the larger settlement patterns and trends of IDP movements. Satellite imagery acquired on 2 May 2012 was compared with an image from 3 June 2013 for this report, which is the fifth update on IDPs in Mogadishu done by UNOSAT since 2011. There are known IDP settlements located within permanent buildings that have not been identified in the analysis and are not reflected in the estimates presented in this report. Geographic datasets produced for this assessment and additional UNOSAT Horn of Africa products are available at <http://www.unitar.org/unosat/horn-africa-data>. This report is part of an on-going satellite monitoring program of UNITAR/UNOSAT of the Horn of Africa in support of international humanitarian assistance. This assessment has not yet been validated in the field. Please send feedback to UNITAR/UNOSAT at the contact information on page 1.

### 1. DRAMATIC IDP CAMP AND POPULATION CHANGES - SUMMARY BY DISTRICT

There has been a sustained, large scale internal movement of Somali IDPs within Mogadishu between 2 May 2012 and 3 June 2013, as indicated by a 25% decrease in the total number of open, spatially-distinct IDP shelter sites from 513 to 379 during this more than one year period; further, there has been an apparent decrease in the total number of IDP shelters as suggested by the 15% reduction in the total surface area of IDP sites, from 3.9 million square meters to 3.3million square meters during this same period. *Table 1* below contains a detailed breakdown of this updated IDP shelter analysis by city district. The overview map on page 4 presents the location and status changes of the 379 IDP shelter sites identified across the city.

*Table 1 – Changes in IDP shelters between 2 May 2012 and 3 June 2013 by district*

Mogadishu Districts	2 May 2012	3 June 2013			2 May 2012	3 June 2013		
	# of distinct IDP shelter sites	# of distinct IDP shelter sites	CHANGE in Total Number	CHANGE (%)	Total area of IDP Shelter sites (m <sup>2</sup> )	Total area of IDP Shelter sites (m <sup>2</sup> )	CHANGE in Total Area (m <sup>2</sup> )	CHANGE (%)
Cabdcasiis (*)	18	11	-7	-39%	58,530	28,086	-30,444	-52%
Boondheere	28	14	-14	-50%	55,520	28,857	-26,663	-48%
Daynile	11	17	6	55%	274,702	605,753	331,050	121%
Dharkenley	13	12	-1	-8%	413,895	329,615	-84,280	-20%
Gupta (**)	4	11	7	175%	14,056	19,669	5,613	40%
Xamar Jaab-Jab	21	15	-6	-29%	24,544	11,372	-13,171	-54%
Xamar Weyne	8	4	-4	-50%	9,147	7,817	-1,330	-15%
Hawl Wadaag	54	44	-10	-19%	227,069	101,357	-125,712	-55%
Hodan	91	78	-13	-14%	1,336,739	1,112,557	-224,182	-17%
Heliwa	31	14	-17	-55%	77,619	113,042	35,424	46%
Karaan	57	33	-24	-42%	405,672	420,037	14,365	4%
Mahad Allah (**)	4	1	-3	-75%	5,566	4,287	-1,279	-23%
Shibis	26	14	-12	-46%	63,735	38,068	-25,667	-40%
Shangaani	9	6	-3	-33%	30,347	11,675	-18,672	-62%
Waaberi	22	25	3	14%	106,868	50,507	-56,361	-53%
Wadajir	37	40	3	8%	643,297	361,774	-281,523	-44%
Wardhiigleey	29	25	-4	-14%	104,180	83,874	-20,306	-19%
Yaaqshiid	50	15	-35	-70%	67,229	12,444	-54,785	-81%
<b>TOTALS</b>	<b>513</b>	<b>379</b>	<b>-134</b>	<b>-26%</b>	<b>3,918,715</b>	<b>3,340,791</b>	<b>-577,924</b>	<b>-15%</b>

(\*) In the previous report of UNOSAT (2 May 2012) this district was referred to as Abdi-Aziz

(\*\*) These districts are technically outside Mogadishu but are suburbs and are provided to indicate changes on the perimeter of the city

As of 3 June 2013, there were a total of 379 spatially distinct and functioning IDP shelter concentrations located in Mogadishu, representing a decrease of 134 IDP sites since 2 May 2012. Based on a temporal comparison over this one year period between 2 May 2012 and 3 June 2013 (see *Table 2* below), 86 camp sites were newly formed, 36 existing sites showed indications of significant expansion in size, 217 existing sites contracted in size, 352 sites closed or were absorbed into adjacent camps, and the remaining 38 shelter sites remained static and without notable changes in either size or shelter density.

The 86 newly-erected sites were distributed around Mogadishu, with the largest concentrations in Daynile and Wadajir districts. Notably, newly-erected sites are concentrated also in Heliwa, but shelters in these camps are much less dense than in other parts of the city. The adjacent Afgoye Corridor shows large increases in IDPs which will be addressed in separate reporting by UNITAR/UNOSAT. Please reference the overview map on page 4 for a detailed visualization of the location and distribution of the IDP camp changes across Mogadishu.

**Table 2 - Changes in IDP shelter sites between 2 May 2012 and 3 June 2013**

Mogadishu Districts	2 May 2012	3 June 2013 (Camp Status Changes between 2 May 2012 – 3 June 2013) <sup>1</sup>							
	# of distinct IDP shelter sites	# of distinct IDP shelter sites	New Sites	Expanded	No Change	Contracted	Closed	CHANGE in Total Number	CHANGE (%)
<i>Cabdalcasiis (*)</i>	18	11	2	0	2	7	7	-6	-35%
<i>Boondheere</i>	28	14	2	4	2	6	16	-13	-48%
<i>Daynile</i>	11	17	12	2	0	3	2	7	70%
<i>Dharkenley</i>	13	12	2	1	1	7	26	-1	-8%
<i>Gupta (**)</i>	4	11	7	2	0	2	2	7	175%
<i>Xamar Jaab-Jab</i>	21	15	4	0	0	11	13	-6	-29%
<i>Xamar Weyne</i>	8	4	0	1	1	2	6	-3	-43%
<i>Hawl Wadaag</i>	54	44	7	3	3	30	35	-10	-19%
<i>Hodan</i>	91	78	9	8	6	55	57	-13	-14%
<i>Heliwa</i>	31	14	7	1	2	4	24	-15	-52%
<i>Karaan</i>	57	33	11	3	8	11	31	-24	-42%
<i>Mahad Allah (**)</i>	4	1	1	0	0	0	4	-3	-75%
<i>Shibis</i>	26	14	1	2	4	7	14	-14	-50%
<i>Shangaani</i>	9	6	0	2	2	2	3	-3	-33%
<i>Waaberi</i>	22	25	1	2	3	19	4	2	9%
<i>Wadajir</i>	37	40	12	3	2	23	40	4	11%
<i>Wardhiigleey</i>	29	25	4	1	1	19	21	-3	-11%
<i>Yaaqshiid</i>	50	15	4	1	1	9	47	-33	-69%
<b>TOTALS</b>	<b>513</b>	<b>379</b>	<b>86</b>	<b>36</b>	<b>38</b>	<b>217</b>	<b>352</b>	<b>-127</b>	<b>-25%</b>

(\*) In the previous report of UNOSAT (2 May 2012) this district was referred to as Abdi-Aziz

(\*\*) These districts are technically outside Mogadishu but are suburbs and are provided to indicate changes on the perimeter of the city

## 2. ESTIMATING A GLOBAL IDP SHELTER COUNT FOR MOGADISHU

An estimate of the total number of shelter structures (i.e. informal shelters and formal tents) in Mogadishu as of 3 June 2013 resulted in a minimum figure of over 61,000 IDP structures located within the 379 identified sites across the city. This estimate was based on a methodology employed by and used in coordination with UNHCR<sup>2</sup>. The previous shelter estimate for 2 May 2012 resulted in a figure of approximately 74,000 shelters.

These estimates were based on average shelter density of camp sites using both manual shelter counts from satellite imagery as well as field based counts (produced by UNHCR staff and coordinating NGOs). This is a preliminary shelter estimate, and is likely to represent a reliable minimum figure; actual IDP shelter numbers within Mogadishu are likely to be larger.<sup>3</sup>

<sup>1</sup> Note that re-opened camps are not indicated separately in this table but are included in '# of distinct IDP shelter sites'.

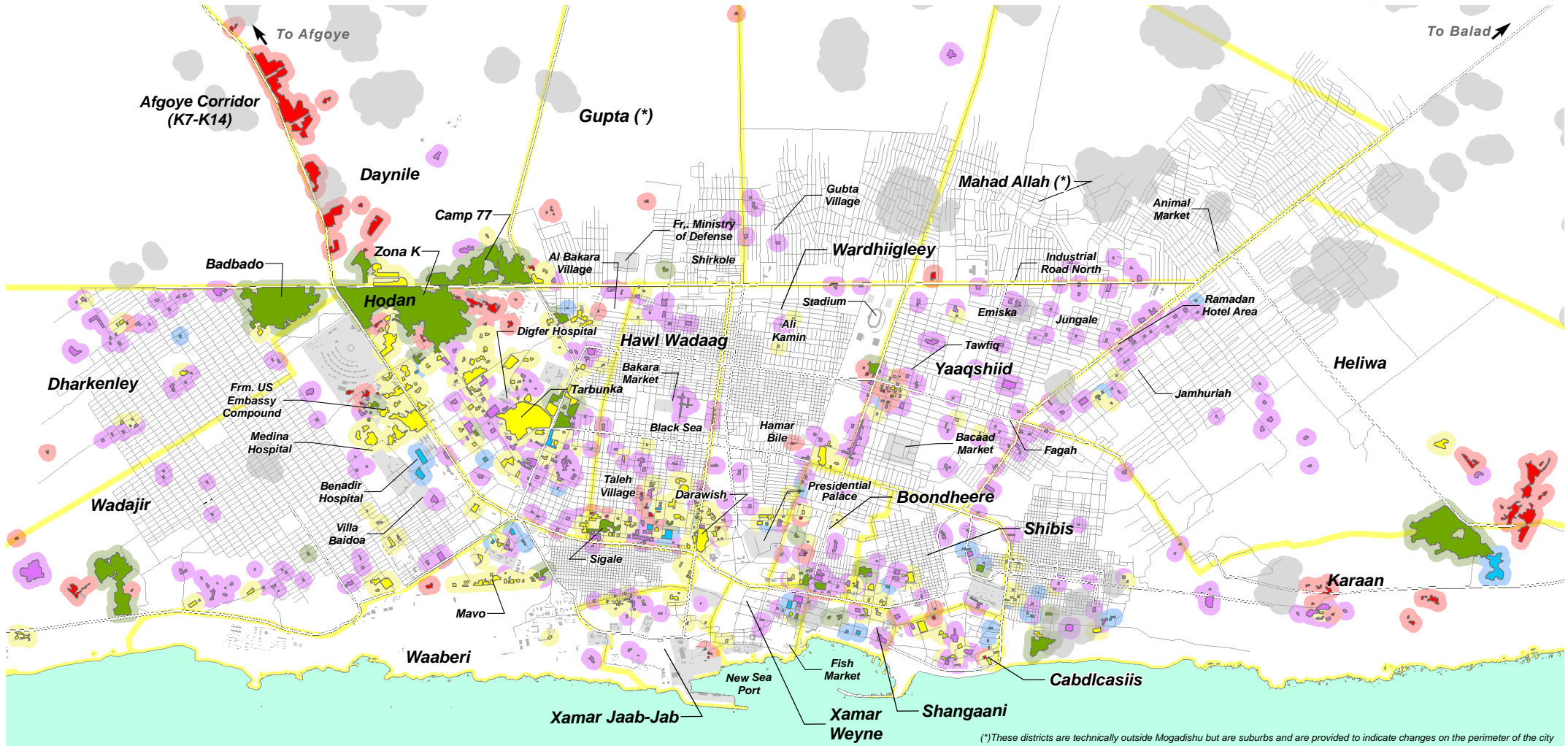
<sup>2</sup> Using a sliding scale of density factors (i.e. average number of shelter structures per area unit (m<sup>2</sup>)).

<sup>3</sup> It is probable that hundreds of IDP shelters are located under trees and roof-overhangs along buildings thus preventing identification in satellite imagery. Also not considered are IDP populations residing within permanent buildings, nor the reported incidents of fake camps erected for extracting additional aid.



# IDP SHELTER CHANGES IN MOGADISHU, SOMALIA (BETWEEN 2 MAY 2012 - 3 JUNE 2013)

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Data Frame rotated 27 degrees from North

Map Scale for A4: 1:65,000



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### IDP Camp Status: (2 May 2012- 3 June 2013)

- Open - New
- Open - Expanded
- Open - Contracted
- Open - No Change
- Closed
- Cloud Area (not analyzed)

Satellite Data: QB / WV01 / WV02 / GE01  
Dates: 30/03/11, 15/4/11, 28/07/11, 21-22/08/11,  
4, 12/09/11, 7, 15, 18/10/11, 02/05/12, 3/06/2013  
Resolution: 0.6 m/0.5 m  
Copyright: DigitalGlobe 2012; GeoEye 2012

Sources: US Department of State, Humanitarian  
Information Unit, NextView License, EUSI, eEOS  
IDP Camp Data: UNITAR / UNOSAT  
Landcover: UNITAR / UNOSAT  
Road Data: Google Map Maker  
Admin Boundaries: OCHA

- Mogadishu Int. Airport
- Mogadishu District Boundary
- Primary Road
- Local / Urban Road

Other Data: USGS, NGA, SWALIM  
Analysis: UNITAR / UNOSAT  
Coordinate System: UTM Zone 38N  
Datum: WGS 1984  
Analysis conducted with ArcGIS v10.1



# UNOSAT

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