

**DRAFT ENERGY AND ENVIRONMENT MISSION  
REPORT TO YUMBE AND ADJUMANI  
SETTLEMENT, 22ND AUGUST – 9TH SEPTEMBER,  
2016**



## ACRONYMS

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### ACKNOWLEDGEMENT

The Rapid Environmental Impact Assessment (REA) Team wishes to acknowledge the individuals and institutions which provided extensive input and support during the fifteen days of this rapid assessment. Among those to thank are the key informants from the BidiBidi refugee settlement, who allowed us to administer 60-90 minute in-depth questionnaires. Thanks also to the 20 professionals who we interviewed from the XXX institutions and organizations from which we sought information and insights.

Thanks also to the REA team members who travelled to Bidibidi refugee settlement to carry out observational analysis, interviews, and focus group discussions with both the refugee and host communities. The District Local Authorities, and in particular the LC V Chairperson of Yumbe District, also provided very useful comments and suggestions. Mr. XXX, The Yumbe District Natural Resources Officer, Mr. XXX the Senior Environment and District Forest Officer of Yumbe provided useful background information for the REA team.

The REA team also received extensive support from the ERT leaders particularly Nasir Fernanades, and Alexander Novikau and Naiga, who assisted extensively in providing logistical support and coordination with other partners.

Thanks also goes to the professionals from key collaborating organizations which provided insight, field perspectives and recommendations through discussions, meetings, phone calls and the REA Organizational Assessment Work-Meeting. Among the organizations that provided extra assistance were WINNER, DEED, IOM, CHF, ACDI/VOCA, World Vision, CRS, UNEP, UMCOR, CERES, FHI, OXFAM, ARC, CARE, PLAN, OTI and IFRC.

Finally, special thanks to Swaleh Gule, who served as a great and creative team member in this assessment; especially in organizing FGDs and interviews as well as translation and subsequently, compiling the information and data for REA analysis. Thanks to you all.

### PREAMBLE

This Report has been divided into six chapters as described below :

- Chapter – 1 gives information about the project proponent i.e. SPPL and the proposed project including its' location and justification, brief details about the surrounding study area and details about site selection criteria considered. It also outlines the statutory requirement of obtaining prior Environmental Clearance, steps to be followed for the same and basic purpose, scope and methodology of REIA study.
- Chapter – 2 is project description and infrastructure facilities incorporating all industrial and environmental activities of SPPL for installation of their bulkdrug manufacturing. It also gives information about manufacturing process and raw materials, sources of pollution and details of pollution control facilities to be provided i.e. water and waste water details, air pollution and control system, solid waste storage facility, noise control measures etc.
- Chapter – 3 is base line environmental study giving details about status of air quality, meteorology, water, noise, land, ecology and socio-economic environment of the study area based on information collected through field study or from secondary sources.

- Chapter – 4 is identification and prediction of impacts which provides details to quantify significant impacts of the proposed bulk-drug manufacturing on various environmental components for the commissioning phase and operation phase of bulk-drug manufacturing
- Chapter – 5 is Environmental Management plan (EMP) incorporating measures to be adopted for mitigation of anticipated adverse impacts if any, safety measures, post – project monitoring program for environmental parameters, green belt development, budget allocation for EMP etc.
- Chapter – 6 is Risk Assessment (RA) and Disaster Management Plan (DMP) for the proposed bulk-drug manufacturing

## **DEFINITION OF TERMS**

### **Environment:**

**Environmental Impact:** Any change (positive or negative) that activities associated with a project/intervention may cause in the environment (social, economic, physical, biological, etc.).

**Direct and Indirect Impacts.** Direct impacts are those that occur through direct interaction of an activity with an environmental, social, or economic component. For example, a discharge of industrial effluent into a river may lead to a decline in water quality. Direct impacts on one environmental component may lead to indirect impacts on other components. For example, the decline in water quality in the river may lead to a secondary indirect impact on fish in the river. In turn, the impact on the fish population may lead to reduced harvests of fish with corresponding reductions in fishing incomes.

## **INTRODUCTION**

Uganda has been hosting refugees since 1959 and currently, hosts almost about 665,000 refugees. The recent influx from South Sudan has led to establishment of a new settlement at Bidibidi in Yumbe District with an approximate capacity of 150,000 or more refugees. Hosting of these number of refugees in an area of 251 km<sup>2</sup> is bound to negatively impact the environment. UNHCR's Environmental guidelines/policy requires that environmental considerations be incorporated into all phases of refugee assistance, i.e. during the: emergency phase; care-and-maintenance phase; and durable solutions phase.

In light of the above, Rapid Environmental Assessments (REA) was conducted in Bidibidi settlement as a direct response to identify any existing or potential problem areas or concerns with specific regards to the use of natural resources, but also the broader social and economic impacts. Further, REA was also conducted in fulfilment of the regulatory requirements of the Government of Uganda as enshrined in Schedule 3 of the National Environment Statute, 1995 and the Environmental Impact Assessment Resolutions (1998), which regulate land use and impacts on the environment. As such, National Environment Management Authority (NEMA) of Uganda requires an Environmental Impact Review (EIR) to ensure that mitigation measures for adverse negative impacts are embedded in

implementation cycle. EIAs are well-established instruments designed to bring environmental concerns into the planning and decision making process.

In addition, these guidelines further emphasize three key principles of: integrated approach because environmental issues transcends many sectors and should therefore, be addressed in the entire planning and management process; prevention before cure; cost-effectiveness and net benefit maximisation; and local participation.

REA is therefore, the primary administrative tool to integrate environmental considerations into decision-making to ensure that proposed immediate, short and long term interventions will have minimal environmental impacts and be environmentally sound.

### **REA OBJECTIVES**

1. To compile relevant and essential environmental information – baseline data – to allow informed decisions to be made and to establish the basis for future monitoring;
2. analyse, summarise and prioritise environmental concerns of relevance to emergency operations;
3. identify actions which might cause immediate, short term and longer term impacts;
4. identify environmental impacts that require further analysis and investigation;
5. identify environmental impacts that require immediate action;
6. identify possible solutions to some of the negative impacts which might be revealed; and
7. assess where additional technical expertise might be required.

### **THE REA TEAM**

The team included: George Ilebo (UNHCR Uganda Energy and Environment Consultant) as the Team Leader, Swaleh Gule (UNHCR Pakelle Assistant Environment Officer) and Andama Swaib Solo – District Forestry/Environment Officer of Yumbe District Local Government.

### **METHODOLOGY, DATA COLLECTION AND ANALYSIS**

#### **Methodology**

REA methodology was used specifically because it is useful as a first step in assessing risks and needs in an emergency situation where time is restricted for a more elaborate assessment. REA is built around conducting simple analysis of information in the following areas:

- i. Situational analysis



- ii. Key influencing/aggravating factors that have immediate impact on the environment;
- iii. Possible immediate environmental impacts;
- iv. Unmet basic needs that could lead to adverse impact on the environment; and
- v. Potential negative environmental consequences of relief/emergency operations.

In addition, The REA methodology focused separate assessment efforts on the impact of (1) external relief and recovery operations (Organization level assessment - OLA) and (2) Refugees' perceptions and actions on the environment (Community Level Assessment – CLA). OLA and CLA helps to generate a list of salient environmental-related issues. This list is then reviewed to identify specific actions which could be implemented to (1) avoid (2) reduce, or (3) mitigate the expected negative environmental impacts. Details on the REA methodology can be found at <http://www.unhcr.org/4a9690239.pdf>

### **Data collection**

Given the short time available for this assessment and tight deadlines, data collection was carried out mostly using qualitative techniques. Key informants interviews, focus group discussions, photography, and literature review were the main data collection techniques. However, quantitative data was collected through review of literature.

Six data collection methods were used:

- i. **Reconnaissance survey** to observe and gain information about natural features in Bidibidi
- ii. **Literature review**- Secondary sources, including USAID, DFID, UNDP, UNHCR, World Bank and media reports were reviewed to extract relevant information
- iii. **Key informant interviews** with UNHCR ERT staff, District Local Government staff, Cluster leads for Shelter, Public Health, Camp Coordination and Camp Management, and WASH Clusters, and specific NGOs. Key informants interviews were carried out with selected project partners, District Local Government staff, and refugee and host communities. The REA team met the key informants in their respective locations.
- iv. **Focus Group Discussions (FGDs)** were conducted with the host communities and refugees (Community Level Assessment). A total of four FGDs were conducted with refugees and host communities. A focus group usually comprised of a minimum of 10 and a maximum of 25 people. A key informant's guide capturing the main issues related to the project was

administered. Facts and perceptions of focus groups on energy and environment were explored and captured during the focus group discussions.

- v. **Organization level assessment:** A two-day assessment session was carried out with 12 organizations providing relief and recovery assistance to identify salient environmental issues from the external assistance perspective (i.e. Organization level assessment<sup>ll</sup>). This session included District Local Government staff.
- vi. **Photography:** Relevant photographs were taken and are appended to this report. Photos document natural resources, livelihoods and the general situation in Bidibidi.

Additional data collection and input on the assessment results were collected through electronic, in-person and telephone contacts with OPM and UNHCR implementing partners in Bidibidi and other collaborating organizations. Preliminary copies of the REA, with requests for feedback, was sent to all stakeholders.

The REA team also collected data on shelter sites visited using the Checklist-Based Guide to Identifying Critical Environmental Considerations in Emergency Shelter Site Selection, Construction, and Management. The results of these site assessments were used in the REA process.

### **Sample and Sampling Frame**

Data was collected from Yumbe district. A multi stage sampling procedure was used to select the sub-counties, parishes, and villages for FGDs with host communities. A 2-2-1 approach was used to arrive at the last unit of analysis i.e. from the district, 2 sub counties were selected, and from every selected sub county, 2 parishes were selected, and from every parish, 1 village was selected. Therefore, 2 sub counties, 2 parishes and 4 villages were sampled.

### **Analysis Process**

The data collected were analysed according to the REA methodology. Critical issues were identified from (1) Interviews and secondary sources, (2) the OLA and (3) the CLA results. The resulting list of issues were consolidated and ranked according to potential impacts on the environment.

The consolidation and ranking process was conducted by the REA team and will later be shared with other parties for comments through emails and briefings. Subsequent revisions will be made as additional information and comments are collected. Note that the REA provides a transitory view of emergency-related environmental issues and, like most emergency assessments, is subject to progressive updating.

The CLA results were also subsequently reviewed to identify differences between predominantly male and female respondents.

### **Major Limitations of the Methodology**

The lack of good baseline data presented a challenge. The short available time meant that the team could only conduct qualitative research during the mission to the field. The tight deadlines and the mission being conducted during the emergency also presented a challenge.

## **OBSERVATIONS AND FINDINGS**

### **1.0 BACKGROUND INFORMATION ABOUT YUMBE DISTRICT AND BIDIBIDI**

This chapter gives, location, size, background information, geographical features, climate and vegetation of the district.

#### **1.1 Location**

Yumbe District is located at Latitude 30 30' 0" N, Longitude 31 19' 60" E and is one of the districts in the North Western region of Uganda. It is bordered by Koboko district in the West, Arua in the South, Moyo in the East and south Sudan in the North. Yumbe District headquarters are situated 637 km from Kampala City.

Bidibidi settlement GPS coordinates are: N 3 341.8114, E 31 26 47.688. It is about 15km East of Yumbe town.

#### **1.2 Size**

Yumbe district has a Total Surface Area of about 2,411 km<sup>2</sup> of which land area is 1,929 km<sup>2</sup>. However, Bidibidi settlement is about 251 km<sup>2</sup>.

#### **1.3 Historical background**

Yumbe district is a one county District that broke out of Arua district in 2002. It is largely inhabited by one major ethnic tribe (Aringa speaking Lugbara). They have a unified historical origin dating as far back as 1000 A.D. Although in the mid-21st Century, there has been a mix through intermarriages. The majority of the people in Yumbe District are of Nilo-hamites origin (99%) which includes Lugbara, Kuku, Kakwa and Madi, The Aringa speaking Lugbara constitute 93 percent of the population.

The main tribes among the refugees in Bidibidi settlement are the Madi, Acholi, Kuku and Peri among others.

#### **1.4 Population**

According to the 2014 Uganda Population and Housing Census results, Yumbe District population is 484,822 (UBOS, 2014). About 94 percent of the population live in rural areas where as only about 6 percent live in the urban areas.

Bidibidi has a capacity to accommodate 150,000 refugees. However, as of 5<sup>th</sup> September, 2016, there were 46,000 refugees in Bidibidi. However, this number is expected to rise drastically because at the moment about 2500-3000 refugees are received on a daily basis. These number of refugees will place great burden and pressure on the environment.

#### **1.4 Topography**

Average Altitude of Yumbe is 850 Metres above Sea Level. The District is generally flat, although in the eastern part there are several hills, and in the north there are two hills namely Midigo and Kei. Most parts of the District are agriculturally productive except the eastern part of Romogi, Kuru and Odravu sub counties.

The District has loamy soil. Gravels are evident in some isolated parts of Kuru, Romogi and Odravu sub counties. While towards the eastern part of the district along the Nile basin is sandy.

The District is richly endowed with a number of unexploited and underutilized natural resources such as: - Small stretch of River Nile which contain a wide range of fish species, Forest Reserve in habited by wild life at Kei, Qualitative clay for making bricks, Tiles and pots and all clay products, Abundant Land and labour. Neptune petroleum carried aerial survey in the south western part of the District.

Bidibidi is well drained with seasonal rivers. There are also springs and ponds, mostly in lower areas of Iyete village.

### **1.5 Climate**

Yumbe district experiences a purely tropical climate due to her location within the eastern topographical rainfall zone. Rainfall is bimodal in nature. The wet season starts from March till May. June is usually sunny. The wettest season occurs in the month of August, September and October whereas the dry season runs through from the month of December till early march.

Host community reported Climatic extremes have become common in the last two decades characterized by prolonged dry spells and floods that has always resulted into loss of property, crops and livestock.

### **1.6 Rainfall, Temperature, humidity, and winds**

Yumbe receives an average total rainfall of 1,250 mm. The area experiences a two seasonal rainfall, light rains between April and October. The wettest months are usually August-September with >120 mm/month. The period December-February is dry with less than 60 mm/month. The rain is associated with the northern and southern movements of the inter-tropical front. Mean monthly evaporation ranges from 130mm-180mm.

The prevailing wind is from the east to the west with frequent windstorms during the dry season. Temperatures are generally high during the nights of dry seasons (Dec-March) similar to those during day hours whereas during wet seasons, temperatures remain high during day and fairly low during the night hours.

### **1.7 Soils**

The District has loamy soil. Gravels are evident in some isolated parts of Kuru, Romogi and Odravu sub counties. While towards the eastern part of the district along the Nile basin is sandy. Most parts of the District are agriculturally productive except the eastern part of Romogi, Kuru and Odravu sub counties

### **1.8 Vegetation**

About 80 percent of the total area of Yumbe is for agriculture, most of it is cultivated. Forestry and woodlands cover a very small part i.e. only 17.1 percent of the total area. The district has a total of 411.78 km<sup>2</sup> of land under forestry and woodlands. There are three central forest reserves in the district; Mt Kei natural forest reserve which is also a conservation area, covers an area of 40,689 ha; Lodonga forest reserve is a plantation which is being majorly cultivated by tobacco farmersassociation to produce woodfuel and has an area of 106 ha and Koloa forest reserve with an area of 614 ha, has the same status with Lodonga forest reserve. The remaining part is either ungazetted community forests e.g. Ujiji in Odravu sub county, or woodlands. National Forestry Authority (NFA) has taken over the management of the three central forest reserves which forms about 30 percent of the forest and woodland cover, leaving the 70 percent to the local governments for management.

The dominant tree species in Bidibidi settlement are *Acacia species*, *cumbrietta species*, and *fig species*.

Romogi, kochi, kululu sub-counties -

#### **1.1 Mineral resources**



Kei and Midigo have qualitative clay for making bricks, tiles and pots and all clay products. Neptune petroleum carried aerial survey in the south western part of the District. This has revealed potential for the presence of petroleum products. This Financial Year, seismic survey will start to determine the quality and quantity of petroleum products underneath this part of Yumbe district.

The assessment identified a range of major issues, and actions to address these issues. These immediate actions and additional medium term issues need to be considered in planning and implementing the shift from immediate emergency operations to care and maintenance phase. The critical issues and recommendations are summarized below.

**General findings include:**

1. There is selective harvesting of trees in the establishment of temporary shelter.
2. In addition, there is visible evidence of tree planting at community institutions, avenues and households.
3. A good proportion of refugees are aware of improved stove technology and practices mainly because of prior refugee experience.
4. Currently dead wood which is readily available within the proximity of the settlement is the main source of fuel energy for cooking. However, these are running out at a fast rate and afterwards, refugees will most likely resort to cutting marked trees/shrubs;
5. There is competition for natural resources (thatch grass, construction poles, etc.) both among refugees on one side, between refugees and host community on another side;
6. Stray livestock (goats and cattle) destroying planted trees and crops of refugee communities. Points (d) and (e) pose a threat to peaceful co-existence and can lead to conflict between the refugees and host community;
7. Limited livelihood and employment opportunities for gainful income to access other; and
8. Shallow soils with widespread basement rock. This affects planting of deep rooted trees as well as digging of pit-latrines. The latter has led to open defecation which poses serious environmental and public health issues in the form of water and air pollution.

**RECOMMENDATIONS FOR THE ABOVE GENERAL FINDINGS**

- Continue and sustain awareness creation on environmental health in particular and environmental management in general;
- Expedite training of ToTs for construction of fire-shielded stoves and explore alternative sources of energy like briquettes;
- Establishment of tree nurseries of locally adapted tree species in addition to promoting natural regeneration;

- Commence conflict resolution and peace building activities among refugees and host communities; and
- Initiate livelihood and income generating activities that integrates various tribal groups among refugees as well as refugees and host communities
- **Environmentally Responsible Procurement.** Environmentally responsible procurement (ERP) is a systematic approach to purchase of goods and services that are thought to be less damaging to the environment than other goods and services that serve the same purpose. ERP requires that purchasing decisions and allocation of contracts be based in part on environmental criteria along with other factors such as price, quality, and availability. Consideration must be given to the total environmental costs throughout the product life cycle – from manufacture, use, and disposal. Borrowers and executing agencies, should wherever possible, ensure that the goods and services procured under ADB-financed projects have been produced in a responsible manner with a view to resource efficiency, waste minimization and environmental considerations. Suitable provisions will in due course be included in loan and project agreements as well as bidding documents to ensure environmentally responsible procurement. The form and content of such provisions will be developed in coordination with other multilateral financial institutions. More details are provided in Chapter XIII

## **SECTOR-SPECIFIC ISSUES AND RECOMMENDATIONS**

### **1. Coordination, Management and Information**

The need for an environmentally sound response is generally accepted, but the scale and scope of the influx impacts and assistance far exceeds the existing coordination and management mechanisms, leading to general inefficiencies, a weak focus on environmental issues and poor dissemination and sharing of information.

#### **Recommendations**

- Immediately conduct a training on environmental mainstreaming for all partners to ensure that UNHCR-funded operations meet Government and UNHCR environmental regulations and negative impacts are minimized.
- Immediately assign an implementing partner for Energy and Environment. I am recommending that the District Local Government of Yumbe takes lead in this because they are mandated and have the expertise as well as recognized structures
- Establish a structured coordination at different administrative layers – district, settlement and communities

- iv. Conduct a strategic environmental impact assessment of recovery plans.

## 2. WASH

There is evidence of open defecation by the new arrivals who were yet to get their plots and by some sections of the refugees especially the Peri tribe who culturally prefer open defecation. There are also indications that safe-to-drink water is being contaminated due to improper household-level handling. Vector numbers and vector-related disease (e.g. malaria) appear to be increasing. Liquid and solid waste disposal especially of polyethene/plastics is still a challenge and contributes to short and long term environmental degradation and health issues. Some proposed solutions for temporal waste management, particularly sewage ponds, may not be viable because of the rocky nature of Bidibidi and could contribute to further environmental damage.

In the host community, the main water sources are bore holes and springs for drinking water, whereas, water from streams and ponds are used, commonly for washing dishes and laundry.

### Recommendations

- i. Continue awareness and sensitization on environmental health and safe waste management
- ii. Ensure that each household level constructs and uses pit-latrines
- iii. Undertake waste segregation and encourage recycling and re-use of polyether products
- iv. Construct incinerators
- v. Construct settling ponds and explore other options for sewage treatment/disposal that foster value-addition e.g. biogas and fertilizer production
- vi. If chemicals are to be used in toilets or pit-latrines for any purpose, an immediate environmental assessment should be done. If the chemicals used pose an unacceptable environmental risk, use of these chemical should be discontinued immediately and replaced by acceptable alternatives.

## 3. Shelter and Shelter Sites

Some shelter sites did not meet minimum standards, specifically in: sanitation (pit-latrines, bath shelters); gender-family size vs sex; safety, and potential for fire; and didn't have plot numbers making it difficult to locate.

Site visits indicated that considerable cooking takes place in or near shelters. The use of open flame or charcoal together with very flammable shelter materials (e.g., tents, cloth, some plastic sheeting, poles etc.) creates a significant risk of fire.

Current emergency shelter assistance focuses on providing plastic sheeting. Emergency shelter efforts have resulted in an increased exploitation of small trees to provide framing for plastic or other short term shelter materials such as bed sheets and blankets. Interviews indicated that it takes up to 12 poles (trees of approximately 15 cm circumference and 400 cm long) to make a basic plastic or cloth-covered shelter, though only five poles are being distributed. This poses significant damage to the environment especially tree cover. The area also has some threatened and rare species of trees – ebony and mahogany. With increased demand for poles for construction, these species may become extinct.

### **Recommendations**

- i. Undertake land use planning/mapping for the entire settlement
- ii. Allocate plot numbers for easy identification
- iii. Consideration of gender issues in the distribution of shelter kits i.e. different sexes of household members should be taken into account and not merely the number of household members. For instance families with adolescent girls who cannot share the shelter their adolescent siblings of opposite sex
- iv. Continue with tree marking
- v. All shelter sites should have a fire management plan.
- vi. Use of open flame or cooking near shelter units should be prevented.
- vii. Drainage at and near shelter sites should be improved to reduce water stagnation
- viii. All new shelter sites should receive an environmental impact review and have impact mitigation and local environmental management systems established. Therefore, no site construction should begin until a site environmental review is completed, and site environmental impact management plan is established
- ix. The poles/wood for transitional shelters should come from sustainable forests and provided at the same time as other shelter materials.
- x. The excessive harvest of poles for emergency shelter should be mitigated in recovery programming

### **4. Livelihoods and Food Security**

Refugees and the host community since they are from the same ethnic groups grow similar kinds of crops such as sweet potatoes, beans, peas and other local vegetables. About 5 percent of the refugees who own livestock e.g. Poultry (chicken, ducks and turkey), goats and sheep are reared through free range, thus, there are challenges faced by refugees in grazing their animals due to the small plot sizes of 30m<sup>2</sup>. Livelihoods and food security are therefore, significantly affected because of lack of household productive assets, disrupted social networks, and widespread challenges in meeting food

and other basic needs. Consequently, some of the refugees have resorted to negative coping mechanisms to meet other household needs for example selling solar lamps at UGX. 20,000 – 30,000 per lantern, and selling goats and sheep at about 40 – 50% of market price.

If livelihoods and food security situation is not addressed, refugees may further resort to livelihood and food security options which are detrimental to the environment (e.g., increased charcoal production). At the same time, livelihood strategies are in flux and markets unstable, presenting challenges in directing assistance to minimize negative environmental impacts.

Agricultural activities should not be conducted near the streams and seasonal rivers to circumvent soil erosion and attendant soil fertility, silting of streams and rivers which can lead to eutrophication and water pollution.

### **Recommendation**

- i. Collect information on current and expected livelihood strategies and assess for negative impacts on the environment.
- ii. Identify and promote environmentally-positive livelihood strategies.
- iii. Monitor food supply and nutrition conditions to identify whether worsening conditions could lead to increased demands on natural resources.
- iv. Expand shelter site level food production (e.g., use of kitchen gardens) to increase micro-nutrient intake.
- v. Ensure energy efficiency and conservation e.g. through the use of energy saving stoves and good cooking practices
- vi. Ensure wood fuel supplies are from sustainable sources.
- vii. Promote water shelter belt technology

### **5. Health-Related Issues**

Drugs have been provided as emergency assistance, but some refugees were not clear if all the drugs provided were appropriate as some of them were used to using medicinal herbs. Some of the refugees did not know where the health facilities were located. Anecdotal reports of infectious diseases were widely reported by community members (including skin infections, malaria, flu, fever, and diarrhoea). Vectors (mosquitoes, flies, and rodents) and snakes and their breeding sites are currently not controlled in many shelter sites. Communities reported an increase in the presence of these pests. While future control (e.g. for malaria and dengue) may include pesticide spraying, due to the concentration of populations and proximity of food storage, as well as water bodies, measures would



need to be implemented to minimize environmental and health effects. At the reception centre, there is a proposal to use insecticides and apply larvicides into toilets and latrines to control vectors.

**Recommendation**

- i. Continue to follow the Ministry of Health/UNHCR disease surveillance effort, as the evolution of health conditions may have an impact on the environment and vice versa (e.g., pathogen transmission and vectors).
- ii. Ensure that expired drugs are disposed of in an environmentally sound manner.
- iii. A further scoping of the vector problem is needed. This should be done in collaboration with the Government of Uganda Vector Control programme and the National Malaria Control Program.
- iv. Use an integrated pest management approach for all vector control efforts.
- v. In toilets and latrines, the addition of lime may be sufficient to control vectors (as well as odours). Encouragement of proper maintenance will also reduce vector problems.
- vi. If pesticides are used for pest control, best standard practices for application, public information, and safety should be enforced.

**6. Procurement**

With an estimated annual procurement budget of over USD 11 million, UNHCR should or is in a strong position to influence the local environment through Environmentally Responsible Procurement (ERP). ERP is a systematic approach to purchase of goods and services that are thought to be less damaging to the environment than other goods and services that serve the same purpose. ERP requires that purchasing decisions and allocation of contracts be based in part on environmental criteria along with other factors such as price, quality, and availability. Consideration must be given to the total environmental costs throughout the product life cycle – from manufacture, use, and disposal.

A sustainable procurement policy should therefore, consider the environmental consequences of a range of factors including design; non-renewable material use, manufacture and production methods, logistics, service delivery, use, operation, maintenance, reuse, recycling options, disposal, and suppliers’ capabilities to address these consequences throughout the supply chain.

**NEXT CRITICAL STEPS**

<b>S/no.</b>	<b>Activity</b>	<b>Time frame</b>
1	Undertake aerial survey/Geographical Information Systems (GIS) mapping of the settlements	12 <sup>th</sup> -19 <sup>th</sup> /09/2016

2.	Conduct Land use mapping/planning for the settlement based on soil and land surveys and systematic land evaluation	1 <sup>st</sup> -31 <sup>st</sup> October, 2016
3.	Prepare and sign Project Partnership Agreement (PPA) with the Yumbe District Local Government and other partners	12 <sup>th</sup> -31 <sup>st</sup> October, 2016
4.	Establish an Environmental Task force to coordinate the implementation of environmental measures and to monitor environmental impacts	1 <sup>st</sup> -31 <sup>st</sup> October, 2016
6.	Conduct a training on environmental mainstreaming for UNHCR and partner staff	10 <sup>th</sup> - 15 <sup>th</sup> October, 2016
7.	Develop an Environmental Management Plan for Bidibidi	20 <sup>th</sup> October, 2016

## EXECUTIVE SUMMARY

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- 15.

Yumbe District



# LANDCOVER CLASSIFICATION IN BIDI BIDI AREA, MOYO AND YUMBE PROVINCE, UGANDA

Analysis with Landsat-8, GeoEye-1 and WorldView-2 Data Acquired 16 December 2014, 19 March 2014 and 24 January 2014

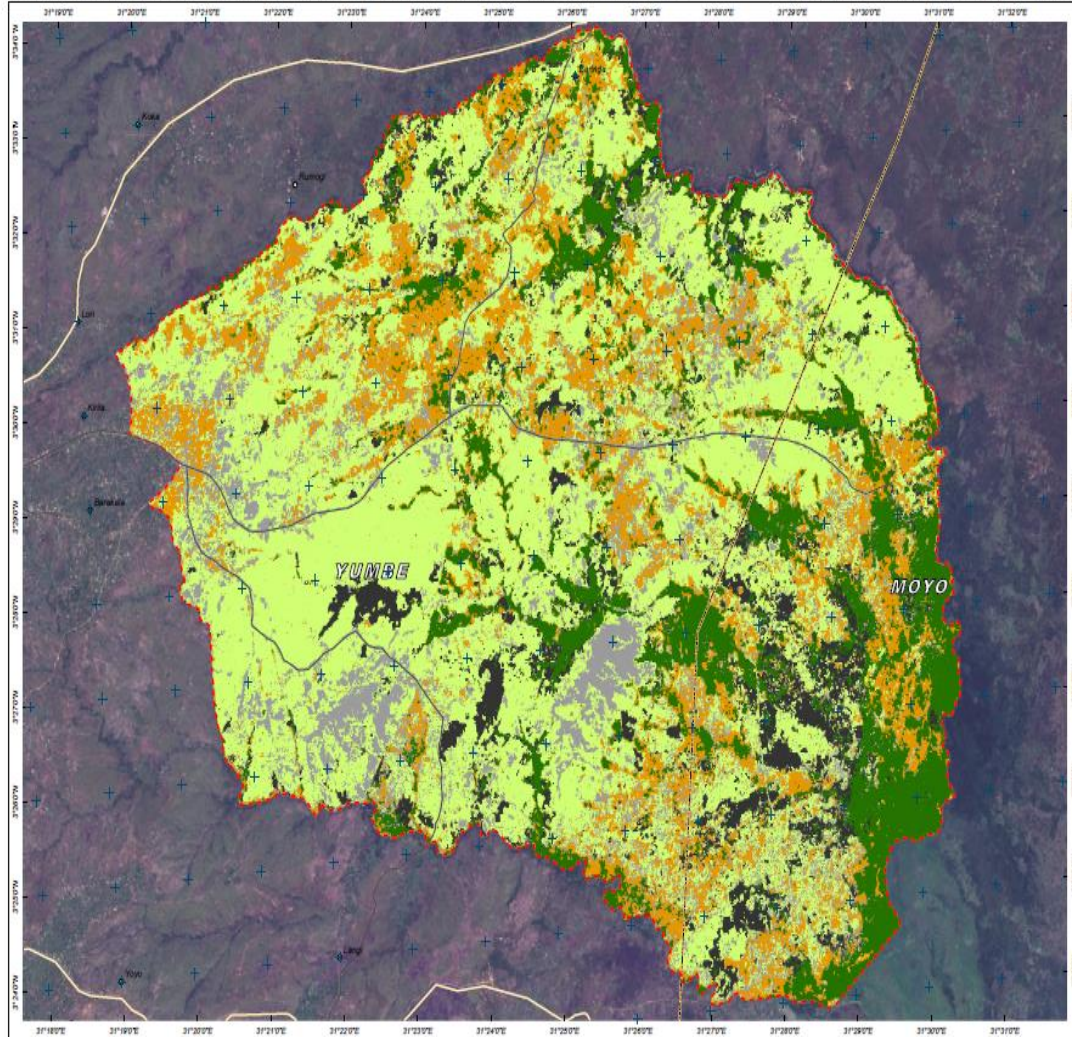
This map illustrates satellite-detected landcover over the Bidi Bidi area of Yumbe and Moyo Province in northwestern Uganda. Using a Landsat-8 imagery collected 16 December 2014, UNOSAT enhanced the analysis by digitizing the visible structures and small villages. This is a preliminary analysis and has not yet been validated in the field. Please send ground feedback to UNITAR - UNOSAT.

**Complex  
Emergency**

Production Date:  
01/2/2016

DRAFT

Activation Number:  
CE2013121855D



## LEGEND

- Populated Place
- Secondary Road
- Local/Urban Road
- Province Boundary
- Area of Interest
- Agriculture
- Vegetation
- Burnt Area
- Short Vegetation - Bushes
- Barren Land - Urban

Map Scale for A3: 1:80,000

Satellite Data (1) Landsat-8  
Imagery Date: 16 December 2014  
Resolution: 30 m  
Copyright: NASA  
Source: NASA  
Satellite Data (2) GeoEye-1  
Imagery Date: 19 March 2014  
Copyright: DigitalGlobe  
Source: US Department of State, Humanitarian Information Unit, NeoView License  
Satellite Data (3) WorldView-2  
Imagery Date: 24 January 2014  
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Analysis: UNITAR - UNOSAT  
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Analysis conducted with ArcGIS v10.3

Coordinate System: WGS 1984 UTM zone 36N  
Projection: Transverse Mercator  
Datum: WGS 1984  
Units: Meter

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