

Rapid Diagnostic Assessment of Land and Natural Resources Degradation in Areas Impacted by South Sudan Refugee Influx in Uganda

Field Mission Report **11-19 March 2018**

1. Introduction

The ongoing refugee crisis in South Sudan has led to the establishment of some of the world's largest refugee settlements over the border in northern Uganda. As of 28 February 2018, just over 1 million South Sudanese refugees and asylum-seekers had migrated to Uganda, over 350,000 of them in 2017 alone. Uganda is also hosting refugees from Somalia, Burundi and Democratic Republic of the Congo, making it the largest refugee host country in Africa (and second in the world) with a total of 1.44 million refugees and asylum-seekers (UNHCR, Flash Update, 16 March 2018).

The refugee influx has reportedly had a range of environmental impacts, including land degradation, woodland loss, competition for water and rangeland resources, and constrained access to wood energy for cooking, as well as impacts on local services for host populations (e.g. education and healthcare). In response, the World Bank has contracted the Food and Agriculture Organization of the United Nations (FAO)¹ to undertake a "Rapid Diagnostic Assessment of Land and Natural Resources Degradation in Areas Impacted by South Sudan Refugee Influx in Kenya and Uganda". The assessment is expected to determine the environmental impacts of the refugee influx, with a focus on forest resources, and propose appropriate interventions options to mitigate pressure on the environment and support energy access to the refugee and host communities. This assessment in Uganda targets 14 refugee settlements in West Nile region and is taking place between February and July 2018, using a combination of satellite remote sensing, biophysical data collection and socio-economic investigations.

Uganda is eligible to benefit from a portion of a new \$2 billion sub-window for refugees and host communities, which was created under the 18th replenishment of the World Bank Group's International Development Association (IDA). Uganda's progressive refugee policies enhance its prospects for support under this window. Uganda is also benefitting from ongoing support to refugee-hosting areas under the Development Response to Displacement Impacts Project (DRDIP)². The FAO-led assessment is expected to generate practical intervention proposals for potential inclusion in financing packages submitted to the IDA 18 sub-window for refugees, and to inform ongoing World Bank (WB) support to the Government of Uganda under DRDIP.

2. Mission objectives and main activities

FAO and UNHCR took part in the field mission to Uganda between 11 and 19 March 2018 in order to consult partner agencies and government institutions at national and district level about refugee impacts and suitable mitigation measures, to initiate socio-economic and geophysical surveys in and around the refugee settlements, and to gather contextual information to inform the impact analysis and potential interventions. A representative of the World Bank also joined the mission.

The key activities of the mission were to:

- Conduct consultative meetings and technical interviews with the country offices of the World Bank, FAO, the United Nations High Commissioner for Refugees (UNHCR), the World Food

¹ World Bank Contractual Agreement no. 7185743; FAO Project Symbol: OSRO/GLO/801/WBK

² World Bank project code P152822

Programme (WFP), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), the World Agroforestry Centre (ICRAF) and the Centre for Research in Energy and Energy Conservation (CREEC);

- Consult the district-based staff of FAO, UNHCR and NGOs involved in refugee-related energy and environment operations, including the Adventist Relief and Development Agency (ADRA) in Yumbe and the Lutheran World Federation (LWF) in Moyo;
- Consult administrative and technical staff from government agencies, including the Office of the Prime Minister (OPM), the National Forest Authority (NFA) and District Local Governments (DLGs) in Arua, Yumbe, Moyo and Adjumani;
- Train and mobilise a team of enumerators for socio-economic field survey in Bidibidi and Maaji II refugee settlements and nearby host communities, to assess woodfuel consumption, define gender aspects of forest resources use, and ascertain implication for livelihoods of refugee and host communities;
- Train and mobilise a second team for biophysical field survey by measuring dendrometric parameters at pre-determined plot sites, in order to verify satellite image diagnostics and to estimate above-ground biomass stock from trees and shrubs suitable for woodfuel supply and their changes; and
- Become familiar with the physical, social and political environment in which the refugee settlements of north-west Uganda are located, and the potential mechanisms for WB project structuring and funds disbursement, in order to design appropriate and workable intervention packages.

3. Team Members

The core team comprised two FAO staff, together with UNHCR’s Environment Team Lead for Uganda, who provided invaluable local knowledge and support with protocols and settlement access. They were accompanied in the field by senior members of the socio-economic and biophysical data collection teams as well as by a representative of the World Bank.

Name	Role	E-mail
Core Team		
Arturo Gianvenuti	Forestry and Energy Specialist, FAO HQ	arturo.gianvenuti@fao.org
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Support Team		
Matthew Owen	Energy & NR Consultant, World Bank	matthew.owen@kikenniconsulting.com
John Begumana	Biophysical data collection consultant, FAO Uganda	john.begumana@fao.org
Charles Ariani	Forest inventory consultant, NFA	charles.ariani@gmail.com
Eva Kintu	Socio-economic data collection consultant, FAO Uganda	evakintu@gmail.com
Joseph Okello	Prog. Assistant, Refugee Response, FAO Uganda	joseph.okello@fao.org
Paul Opiio	Consultant to FAO, OPM	opiopaul@ymail.com

Annexed to this report are a mission itinerary, a list of people consulted, a table of acronyms, a detailed account of the issues discussed at each consultative meeting and a selection of photos taken during the mission.

This short overview provides summary information and key messages from the mission, which will inform the ongoing analysis of satellite imagery, survey data, background reports and contextual information gathered in Uganda, and which will together underpin the final assessment report that will be submitted by FAO to the World Bank in June 2018.

4. Key messages

Details of the team's meetings and discussions are annexed. Some of the key messages arising during the mission were as follows:

- There is a high level of ongoing degradation of natural resources in Uganda, driven by a fast-growing population, expanding agriculture and inconsistent application of environmental regulations, among other things. Though there are exceptions, most refugees use less cooking energy than locals, do not build their houses with wood-fired bricks, do not burn charcoal and do not harvest timber from forest reserves. Therefore while the refugee influx has doubtless added to the scale of environmental degradation in West Nile, it is in this context of ongoing degradation that the impacts should be seen. District Local Government (DLG) staff seek support for livelihoods diversification and the development of infrastructure for the local population, and rarely prioritize compensatory support for environmental damage caused by refugees.
- Tree planting has a poor track record in West Nile due to a combination of unfavourable soils, challenging climate, termite damage, fire and the communal nature of land ownership. The latter presents a particularly serious challenge to environmental management and rehabilitation efforts. Where groups have formed (or been formed) to plant trees or protect resources, the effort has generally proven unsustainable. One-off distributions of tree seedlings or payments for environmental work have not generated durable assets. Communal woodlots have often failed due to lack of management after the establishment. Therefore, it is important that alternative models can be found to incentivize forest and tree management beyond the first year when seedlings are most vulnerable. A participatory selection of the right species is also key for a long-term success of tree plantations.
- The environmental effort in the refugee settlements is led by OPM with support from UNHCR and its Implementing Partners which include District Local Governments in the West Nile region. As the refugee operation becomes protracted, it is appropriate for development partners (such as FAO and the World Bank) to come on board, and to move beyond short-term response measures to a development-oriented package of solutions in line with national refugee-response strategies and development plans.
- While the FAO assessment is designed to develop intervention ideas primarily for DRDIP, the fact that DRDIP funds will be channeled via the structure of the Northern Uganda Social Action Fund (NUSAF) presents challenges. NUSAF uses a community-driven, bottom-up approach with discrete projects designed on a village by village basis. Participants are paid for their labour and inputs. A development response to the refugee influx demands a more integrated, multi-district effort that is longer term, innovative, technically well-grounded and employs appropriate sustainability measures. Marrying the two may prove difficult, though discussions post-mission are ongoing.
- At technical level, there are few options available on the domestic energy front. It is expected that refugee and host communities will continue using fuelwood and charcoal in the foreseeable future, as other energy options for cooking are often unaffordable and/or 'inferior'. Modern prefabricated cookstoves are available in regional markets, but neither refugees nor locals have

the funds to buy them in significant numbers, and free distribution should carefully consider a combination of local specific factors to minimize uptake failure. Improved mud-stoves are therefore likely to remain the most appropriate cooking solution, and are a 'technology' already well-known and culturally acceptable to the refugee population.

- The main intervention opportunities therefore lie in better management of woody vegetation in and around the settlements. This could include a variety of planting and protection efforts around homesteads, on farms, on private plots and in regenerating natural woodlands. Such ideas will be developed further in the final assessment report.

5. Next steps

- The FAO team, now back in Rome, are collating the socio-economic survey results and organizing data entry, validation and cleaning.
- The biophysical survey work is continuing through the remainder of April. Once finalized, the sample plot data will inform the satellite image processing in order to assess wood stocks and changes, and to estimate the extent of forest/biomass loss and of land degradation.
- Using the two sets of data alongside background reports, secondary data sources and mission notes, the overall refugee impacts on wood resources will be determined.
- Lastly, the team will provide recommendations on potential energy and forestry interventions for institutional and community-based management in the refugee context of West Nile region of Uganda. These are expected to include (but not be limited to) rehabilitation of degraded areas, afforestation/reforestation and agroforestry, with approximate costings.

6. Annexes

Annex A: Mission Itinerary

(see below annex for acronyms)

Date	Team	Time	Activities	Location
Sat 10 Mar	MO	Evening	WB consultant arrives Kampala	Hotel Metropole
Sun 11 Mar	AG, RT, MO	p.m.	FAO team arrive Kampala	
			Overnight Kampala	Hotel Metropole
Mon 12 Mar	AG, RT, MO, RS	08:00-10:00	Mission planning	FAO Office, Buganda Rd.
		09:00-10:00	Mission intro at World Bank (MO only)	WB Office, Rwenzori Hse.
		11:15-12:00	Meet CRRF Secretariat (incl. OPM & UNHCR)	UNHCR office, Kololo
		13:15-13:45	Meet World Bank (MO only)	WB Office
		14:00-15:15	Meet National Forest Authority	NFA, Nakawa
		15:30-17:00	Meet ICRAF/GIZ	FAO Office
		17:00-18:00	Meet WFP, CREEC & OPM	
		18:00-19:00	Meet J. McCluskey (IWRM consultant)	
			Overnight Kampala	Hotel Metropole
Tue 13 Mar	Whole team	08:00-16:00	Drive Kampala-Arua	
		17:00-18:00	Meet UNHCR Arua Sub-Office	Arua Sub-Office
		20:30-21:30	World Vision & Tropical Power	White Castle Hotel
			Overnight in Arua	
Wed 14 Mar	Whole team	07:30-08:00	Meet Arua District CAO	DLG Office, Arua
		08:00-08:30	Meet RDO Arua/Yumbe	OPM Office, Arua
		08:30-10:00	Meet DFO & DPO	DLG Office, Arua
		10:30-12:30	Drive Arua-Yumbe	Arua-Yumbe
		12:30-13:30	Meet Yumbe District CAO & staff	DLG Office, Yumbe
		14:30-15:00	Drive Yumbe-Bidibidi Settlement	
		15:00-16:30	Meet Settlement Commandant. Meet enumerators and train on survey methodology.	Bidibidi Base Camp
		17:00-18:30	Drive Bidibidi-Koboko	
		18:30-19:30	De-briefing and planning for data collection	Blue Dove Hotel
			Overnight Koboko	
Thu 15 Mar	Whole team	08:30-09:30	Drive Koboko-Yumbe	
		10:00-11:00	Meet UNHCR Yumbe Sub-Office	UNHCR Office, Yumbe
		11:00-11:30	Meet ADRA Yumbe	
		12:30 - 16:30	Field visit to Bidibidi settlement with DFO and ADRA (cookstoves & briquetting; impacted areas & sand mining; check on HH enumerators; community woodlot supported by UNHCR/DLG, private tree nursery).	Bidibidi settlement
		17:00 – 18:30	AG, MO & RS drive Yumbe-Moyo	
			AG, MO & RS overnight Moyo (RT & JB remain in Yumbe)	Multipurpose Training Centre
Fri 16 Mar	TEAM 1 (AG, MO, RS, JO)	08:30-10:30	Meet Moyo DLG (Deputy CAO, DEO, DFO, DVO)	DLG Offices
		10:30-11:00	Drive Moyo-Palorinya settlement	
		11:00-11:15	Meet OPM	Palorinya Base Camp

Date	Team	Time	Activities	Location	
		11:30-12:45	Meet LWF		
		13:00-16:30	Field visit to Palorinya settlement with DEO and LWF (community teak plantation, settlement blocks, degraded hillside, riverine woodland, sand mining, HH tree planting)	Palorinya settlement	
		16:30-17:00	Drive Palorinya-Moyo		
		18:00-19:00	Meet Deputy CAO	Moyo	
		Overnight Moyo			Multipurpose Training Centre
	TEAM 2 (RT, JB)	Overnight Yumbe		Premier Hotel	
	TEAM 3 (EK, PO, enumerators)	All day	Ongoing HH survey work	Bidibidi settlement	
		Overnight Yumbe			
	Sat 17 Mar	TEAM 1 (AG, MO, RS)	07:00-09:00	Drive Moyo-Adjumani via Laropi ferry	
			09:00-10:00	Meet Adjumani DLG (DPO, DNRO, DFO)	DLG Offices
10:00-17:00			Site visits with DLG Forest Guard to refugee settlements to see energy & environment issues (Olua, Ayilo I & II, Maaji II) plus community-encroached natural forest and Zoka CFR	Adjumani refugee settlements	
17:00-17:30			Drive Maaji II-Adjumani		
19:00-20:30			Meet Adjumani DPO & DNRO for dinner	Multipurpose Centre	
Overnight Adjumani			Ruyo Guesthouse		
TEAM 2 (RT, JB)		08:30	Drive Yumbe-Maaji via Obongi ferry		
		12:00-15:30	Field visits for ground truthing LULC classes and degradation in and around Maaji settlement and Zoka Forest	Maaji Settlement/Zoka Forest	
		15:30-16:00	Drive Maaji-Adjumani		
		Overnight Adjumani			Ruyo Guesthouse
TEAM 3 (EK, PO, enumerators)		All day	Ongoing HH survey work	Bidibidi settlement	
		Overnight Yumbe			
Sun 18 Mar		TEAM 1 (AG, RT, MO, RS) + JB	08:30-17:00	Drive Adjumani-Kampala	
			Overnight Kampala		
	TEAM 2 (biophysical survey)	All day	Ongoing biophysical plot sampling work	Yumbe District	
	TEAM 3 (EK, PO, enumerators)	All day	Ongoing HH survey work	Yumbe villages	
Overnight Yumbe					
Mon 19 Mar	AG, RT, MO	08:30-10:30	Debrief at FAO	FAO Office	
		11:00-12:00	Meet SPGS	FAO SPGS Office, Bugolobi	
		12:30-14:00	Drive to Entebbe		
		17:25	WB consultant depart Entebbe		
		18:25	FAO team depart Entebbe		

Annex B: Acronyms

ADRA	Adventist Relief and Development Agency
CAO	Chief Administrative Officer
CREEC	Centre for Research in Energy and Energy Conservation
CRRF	Comprehensive Refugee Response Framework
DEO	District Environment Officer
DFO	District Forest Officer
DLG	District Local Government
DNRO	District Natural Resources Officer
DRDIP	Development Response to Displacement Impacts Project In the Horn of Africa
EnDev	Energizing Development (GIZ Program)
FAO	Food and Agriculture Organization of the United Nations
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
ICRAF	World Agroforestry Centre
IPP	Implementing Partner (of UNHCR)
LWF	Lutheran World Federation
NFA	National Forest Authority (of Uganda)
NRC	Norwegian Refugee Council
NUSAF	Northern Uganda Social Action Fund
OPM	Office of the Prime Minister
RICE	Rural Initiative for Community Empowerment
SPGS	Sawlog Production Grant Scheme
UNDP	United Nations Development Program
UNHCR	United Nations High Commissioner for Refugees
WASH	Water, Sanitation and Hygiene
WFP	World Food Programme

Annex C: People Consulted

Organisation	Name	Position	E-mail
Kampala			
World Bank	Asger Borg	Snr. Country Officer (i/c of refugee response)	aborg@worldbank.org
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CRRF Uganda	Leslie Velez	Snr. Refugee Prot'n Advisor	velez@unhcr.org
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WFP	Robert Kalega	Refugee Livelihoods Officer	robert.kalega@wfp.org
CREEC	Mary Suzan Abbo	Managing Director	msabbo@creec.or.ug
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	Karl Tiller	Remote Sensing Expert	trg@karl-tiller.de
GIZ EnDev	Anja Rohde	Head of Biomass Component, Refugees & Sector Support Program	anja.rohde@giz.de
ICRAF	Clement Okia	Country Rep.	c.okia@cgiar.org
UNHCR	Jean McCluskey	IWRM Consultant	jeanmclluskey@hotmail.com
Arua			
Arua DLG	Ismael Ocengel	CAO	
	Edison Adiribo	DFO	adiribo@yahoo.co.uk
	Willy Nguma	Acting DPO	

Organisation	Name	Position	E-mail
OPM	Solomon Osakan	Refugee Desk Officer	solomonoskan@gmail.com
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FAO	Wilfred Babanga	Customary Land Cluster Coordinator	wilfred.babanga@fao.org
	Godfrey Ocan	Head of Sub-Office, Gulu	godfrey.ocan@fao.org
World Vision	Christopher Hoffman	Reg. Director, Humanitarian Affairs	christopher_hoffman@wvi.org
Yumbe/Bidibidi Settlement			
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	Rashid Kawawa	DPMO	kawawaras2004@yahoo.com
	Kawawa Serberg	DNRO	Kaserberg2000@yahoo.com
OPM	Robert Maryamwesiga	Camp Commandant, Bidibidi	robertbarya@yahoo.com
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	Sam Businge	Asst. Manager, Env. Protection Project	samuel@adrauganda.org ; sam@adrauganda.org
Alanay CBO	Isaac Alema	Nursery Operator, Bidibidi	
Moyo/Palorinya Settlement			
Moyo DLG	Geoffrey Vuciri	Deputy CAO	
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	David Luga	DEO	
	Richard Akule	DVO	
LWF	Charles Masanga	Team Leader	
	Dennis Baryevuga	Livelihoods Officer	dennisbaryevuga@gmail.com
	Benjamin Ojelel	Environment Officer	
Adjumani/Refugee Settlements (Olua, Ayilo I/II, Maaji II)			
Adjumani DLG	Anthony Mugenyi	DPO	amugenyi@rocketmail.com
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	Sabino Amadra	DFO	sabinoamadra@gmail.com
	Mohammed Bugole	Forest Guard	

Annex D: Meeting Notes

Date and Organization	Issues discussed
<p>March 12 World Bank (2 meetings)</p>	<ul style="list-style-type: none"> • DRDIP is enlarged in budget and scope, but final funding is still to be determined. Could be \$150 to \$200M, depending on the Min. of Finance. • WB Board approval for the expanded DRDIP has been pushed back from May to July 2018. • Funds will go via Govt (OPM) using the NUSAF structure in the 7 refugee-hosting districts where it exists. • Projects will be community-driven, based on local demand. • Communities generally prefer infrastructure projects (as does Min. of Finance). • Labour-intensive public works are expected to dominate DRDIP, using seasonal employment to create a public good; some concerns over sustainability of environmental projects as they need ownership and long-term commitment. • No obvious environmental links to other projects under the IDA-18 refugee window, though perhaps to Albertine Rift interventions under the Forest Investment Program. • Wondered why CRRF Working Group on Energy & Environment is not co-chaired by Ministry of Water of Environment (in line with chairing system for other sector working groups).
<p>March 12 CRRF Secretariat</p>	<ul style="list-style-type: none"> • CRRF glad to see the study taking place; noted good fit with the Challenge Statement on Environment, Energy and Climate Change in the CRRF Roadmap to Refugee Response. • Keen to see impacts of refugees fairly and accurately assessed; assessment should be objective and fact-based. • Requested inclusion of a non-refugee hosting district as a control case, to show extent of environmental degradation due to ongoing population growth and development. • Theme of CRRF June meeting will be probably on energy and environment, so study is timely. • Large upcoming projects of USAID Power Africa and Mastercard 'Smart Communities Coalition' were noted, although implications for refugee-hosting districts are not yet clear.
<p>March 12 National Forestry Authority</p>	<ul style="list-style-type: none"> • General narrative from NFA of damage and destruction cause by refugees; scale of influx is unprecedented, with significant impact. • Need innovative ways to address impacts involving local people, refugees, districts, MWE, NFA; but Director noted lack of reliable data and divergent views on appropriate mitigation efforts. • Three types of interventions were suggested: <ul style="list-style-type: none"> ○ Degraded lands require afforestation ○ Lands being degraded require reforestation and protection

Date and Organization	Issues discussed
	<ul style="list-style-type: none"> ○ Lands not degraded require sustainable management ● ‘Planting trees is not sufficient’; natural vegetation also needs to be protected and restored; idea of demarcating areas for conservation; this would need a strategic land use plan and enforcement. ● Idea of tree plantation buffers around Central Forest Reserves , of which there are several in NW Uganda ● NFA can provide seedlings, technical know-how and monitoring support, but capacity in districts to actually manage projects is insufficient. ● National Community Tree Planting Project mentioned as potential channel to promote afforestation. ● Security of investments can be supported through benefit-sharing between DLGs and private owners; idea of private individuals planting within government reserves, like Sawlog Production Grants Scheme (SPGS).
<p>March 12 ICRAF/GIZ</p>	<ul style="list-style-type: none"> ● GIZ and ICRAF jointly implementing a 12-month DFID-funded project on market-based approaches to water, agroforestry and energy in Rhino Camp and Imvepi settlements; ends June 2018. ● ICRAF has developed a ‘community learning centre’ with a tree nursery (150,000 seedlings). Provides relevant training (e.g. in grafting). Exploring hydrogels and bamboo as innovations. Just completed a biomass inventory for both settlements using NFA staff. Separate tree planting work ongoing with Arua DLG, funded by UNHCR. ● GIZ supports local stove production (2-pot rocket lorena and portable 50 kg ‘ESP’ stove). Also empowering vendors of stoves & solar lanterns, setting up 2 energy kiosks (phone charging, printing, etc) and conducting awareness-raising on energy conservation. Recently completed an in-depth assessment of energy demand in both settlements (useful report later shared with team).
<p>March 12 CREEC/WFP/OPM</p>	<ul style="list-style-type: none"> ● CREEC is carrying out a WFP-funded study on behalf of OPM to: <ul style="list-style-type: none"> i) assess impacts of refugees and energy use on environment, with emphasis on forests and vegetation cover. ii) assess impacts on livelihoods and well-being of refugees and host communities; and iii) examine existing and potential mitigation measures. ● FAO/WB team had earlier provided input to CREEC’s methodology. ● Field work and consultative workshops now completed in all refugee settlements; 5,000 HHs interviewed. ● Consultants from Danish Technical University supporting CREEC have offered to consolidate the FAO and CREEC reports upon completion, to give a unified output to the sector working group and CRRF. ● OPM has stressed the need for impact studies to result in action.
<p>March 13 UNHCR Sub-Office Arua</p>	<ul style="list-style-type: none"> ● Arua District Environment Office has just completed EIA pending NEMA decision for Rhino Camp and Imvepi, and a new refugee site planned at Madi Okollo.

Date and Organization	Issues discussed
	<ul style="list-style-type: none"> • UNHCR noted that the emergency phase has passed, so environmental standards should now be applied in all phases of procurement and projects. • Woodfuel and construction materials are considered the main drivers of environmental degradation • Complaints have been noted from the DLG on environmental degradation • Head of Sub-Office has expressed concern with continual ‘pilot’ projects and experimental approaches; she would rather see proven interventions rolled out at scale, than more experimentation and short-term trials. • ‘Market-based approaches’ with refugees are bound to face challenges given the dependency mentality and low income, especially for the 10% ‘Persons with Special Needs’ (PSNs); there is low willingness to pay for improved stoves. • Trees can be planted within institutions and religious institutions where ownership is clear; but most other land in NW Uganda is communally-owned; a specific plan is required to understand who will own, care for and harvest trees after planting, otherwise very low survival rates will be repeated. • High demand for seedlings is reported under SPGS, but could be due to free distribution; low survival rates reported at Bidibidi (rocky ground partly to blame). • UNHCR’s Jan-Dec funding cycle is not conducive to tree planting; the rainy season should be April to June but has come early; funding needs to come ahead of the tree-planting window. • Malteser is working on a feasibility study of water catchment areas. • Each district has provided a list of proposals to UNHCR for environmental projects (submitted via OPM Kampala after mission). • DLG technical capacity needs to be boosted if they are to support any new energy and environment projects in refugee-hosting districts– can WB fund temporary positions? • Eucalyptus and pine are in highest demand (both marketable), though <i>Tectona grandis</i>, <i>Gmelina arborea</i> and <i>Melia azedarach</i> are more suitable for West Nile. • People are also keen to get fruit trees as they bring tangible benefit. • Impacts can be reduced with forest management plan • Issues: burnt bricks – pilot upcoming for constructions material panel from rice husks. Though in fact refugees are not using burnt bricks that are rather used by institutions and local communities. • Outreach ongoing through RICE, HADS and ADRA, environmental clubs in schools are being set up.
<p>March 14 Arua CAO</p>	<ul style="list-style-type: none"> • Courtesy call, at which the District confirmed support to the mission. • For those interventions to be funded under DRDIP, projects for the first year have now been approved; the design process was upwards from communities to sub-counties to districts to OPM.

Date and Organization	Issues discussed
<p>March 14 Arua Refugee Desk Officer</p>	<ul style="list-style-type: none"> • After July 2016, >540,000 refugees arrived. • They have been given 30x30m or 50x50 m plots; there is a need for skills enhancement to maximize productivity from these small pieces of land. • The trend was noted in refugee support towards cash grants, including by WFP; this provides new opportunities for market-driven approaches. • Although the definition of ‘refugee-hosting area’ for project purposes (e.g. DRDIP) is officially limited to the sub-counties in which the settlements are located, in practice it is usually expanded to include all sub-counties within hosting districts (regardless of distance from the settlements).
<p>March 14 Arua DLG technical staff</p>	<ul style="list-style-type: none"> • The DFO recalled that Arua first hosted refugees in 1993; a multi-year Trust Fund from Germany helped restore degraded land; plantations were established in 1996-2000 but there was no funding from 2000-2009. • 250,000 refugees are now in Arua; old areas have been re-opened, and new sites too. • The EIA is now complete and impacts are clearly both positive and negative. • New roads to refugee settlements have made access easier, which has increased extraction of forests products. • A district Project Coordination Office has been set up by OPM, UNHCR and DLG, chaired by the CAO, to oversee all refugee response interventions (incl. ReHOPE). • DLG staff work with UNHCR IPs when funding is available, but their capacity is very thin (e.g. District Forest Office would usually have only 3 staff, including DFO; special approval in Arua to have 8 staff, but have no vehicle and only one motorbike); the DFO has requested a vehicle under ReHoPE. • Interventions that promote food security and nutrition include backyard vegetable production and the keeping of livestock and poultry. • Adoption rates of energy-saving stoves have been poor, as these are usually distributed free as ‘non-food items’. • Arua District has 11 Local Forest Reserves (324 ha), all leased out for plantation establishment; under SPGS, demand for private tree planting is reportedly high. • If NFA can provide some land, then trees can potentially be planted within gazetted CFRs. • DRDIP will be coordinated by the Assistant CAO (also the NUSAF focal point); the DLG’s role is to screen NUSAF projects and provide technical input.
<p>March 14 Rural Initiative for Community Empowerment (RICE), Arua</p>	<ul style="list-style-type: none"> • Rural Initiative for Community Empowerment (RICE) is a local NGO implementing health, education and agriculture projects in West Nile.

Date and Organization	Issues discussed
	<ul style="list-style-type: none"> • In 2018 it started energy and environmental work, including cookstove promotion in refugee and host communities, and planting trees (with species selection by the DFO's office). • Their rapid assessment identified interest in fast-growing trees, especially high value fruit species, and potentially interest in pigeon peas as a fast-growing source of food and fuel. • Planting at household level has the best chance of success due to sense of ownership; also institutional planting at schools and health centres.
<p>March 14 Yumbe CAO & DLG technical staff</p>	<ul style="list-style-type: none"> • Refugees make up 50% of the district population. • The FAO assessment is timely, considering that the environment has been “abused” and little done to restore it. • Impacts were listed as tree cutting for timber, fuel and construction, not being replaced at the same rate; wetlands are under pressure for farming and brick making, being the areas with reliable water availability. • Groundwater is also a concern – a lot of drilling. • One of the challenges is enforcement of laws due to lack of capacity. • On DRDIP: the District reviewed its own 5-year District Development Plan and selected unfunded priorities; these were checked for approval at parish and sub-county level, then forwarded to OPM Kampala for confirmation. • Only 3 months of implementation left until the end of Fiscal Year 2017/18, but still no DRDIP funding has been received; spending will have to be very fast as carry-forward is not permitted. • In Fiscal Year 2018/19 there will be more time, and the project selection process will follow NUSAF procedures. • Ongoing forestry interventions mentioned by the DEO (with UNHCR funding) include: <ul style="list-style-type: none"> ○ establishing community tree nurseries for fast-growing species such as <i>Gmelina arborea</i> as fuelwood ○ procuring fruit tree seedlings from private growers ○ distributing seedlings to refugees and locals ○ establishing woodlots ○ plantation gap-filling from last season ○ distributing 8,000 energy saving stoves to PSNs, child-headed families and pregnant mothers ○ giving beehives to selected groups • Shortage of land is a constraint to sound environmental management; 30x30 m plots are too small for a homestead plus agriculture.

Date and Organization	Issues discussed
	<ul style="list-style-type: none"> • 2018 plan is to build capacity of trainers in energy efficiency and technologies, construct stoves with local materials, impart knowledge and skills, distribute 200+ Kenya Top Bar beehives, review local environment committees in 5 zones, and establish woodlots in host communities.
<p>March 14 OPM Settlement Commandant, Bidibidi</p>	<ul style="list-style-type: none"> • Very large settlement with 70,000 households; five zones, each in a different sub-county. • 100% rely on woodfuel; wood is also in demand for construction and brick burning (by locals rather than refugees). • New arrivals are only given 7 building poles by UNHCR, but as a small house requires 12 and a larger house requires 17, the extras must be cut from the local environment. • Environmental activities are managed by ADRA and Yumbe DLG (with UNHCR support). • They have carried out tree marking, established nurseries and training refugees in lorena stove construction. • Refugees are perceived to be not motivated to plant since they are only in Uganda temporarily; survival rates of trees are low as a result. • Under DRDIP, he proposes 2 acre woodlots at each government institution, where land ownership is clear (not communal); possibility also of roadside planting (400 km of roads within the settlement). • There is a need for improved cookstoves in many institutions that still use three stone fires for large scale cooking. • Community-based approach is needed but he suggests using DRDIP for fewer, larger projects rather than very many small initiatives ('do one thing and do it well'). • Cash-for-work has been suspended as it was not working; tree seedlings were dying after people had been paid to plant them; this looks like a lesson for DRDIP, as cash-for-work is the NUSAF approach.
<p>March 15 UNHCR Sub-Office Yumbe</p>	<ul style="list-style-type: none"> • General discussion of intervention options, though noting that UNHCR's annual budget for energy and environment work is only \$1.2M in Uganda (0.75% of its total budget). • Suggestion to consider bio-latrines to provide cooking fuel, but various technical and socio-cultural constraints were discussed. • Char briquettes are being produced with training by ADRA. It can be an income generating activity although there is no real market but UNHCR can to buy them for free distribution as a way to introduce and promote their use. • Brick-burning is ongoing in the settlements and regionally, government needs a clear policy. • FAO – Saw log Production Grant Scheme (SPGS) is being implemented in Arua, Yumbe and Moyo. Targets are: grantees, institutions, refugee communities.

Date and Organization	Issues discussed
	<ul style="list-style-type: none"> • The communal nature of land ownership presents a challenge; land is owned by families, so to be engaged they must see direct benefit. • Planting can happen more easily where government owns the land. • Conservation agriculture is something that could be enhanced to slow the rate of tree clearance for opening up farm land; DRC is starting a pilot in Rhino Camp.
<p>March 15 ADRA, Yumbe</p>	<ul style="list-style-type: none"> • ADRA is UNHCR's Implementing Partner (IP) in Bidibidi for Environment, Livelihoods and WASH. • Interventions are in all Zones (1-5) but in specific villages to avoid overlap with Yumbe DLG. • Work includes tree-planting, agroforestry, stove construction and briquette production at a unit in Zone 2. Maize and sorghum stalks are charred, crushed and blended with cooked cassava flour then densified. Output is only 18 kg per week and the fuel is not proving popular. • Have trained more than 200 trainers of trainers (ToTs) (with incentive payments) in lorena stove construction; energy savings from the stoves have not been quantified, though this is planned. • ADRA sources tree seedlings from private nurseries and monitors them for quality. • Woodlots have not been pursued by ADRA due to land tenure challenges, although the team was shown a host community woodlot supported by UNHCR via the DLG, where natural regenerating woodland had been cleared to make way for neem trees. • Goats present a great challenge to tree survival rates, both here and in all settlements.
<p>March 15 UNHCR Asst. Evt. Officer</p>	<ul style="list-style-type: none"> • Yumbe DLG is also a UNHCR IP, working in different areas from ADRA. • Other organizations working on environmental activities (non UNHCR-funded) are ACF, NRC and Samaritan's Purse. • All participate in the sector working group and their activities, achievements & challenges are included in the monthly reports. • UNHCR template is used; opportunity to use Open-Street Mapping for tracking marked trees, stoves distributed and type.
<p>March 16 Moyo DLG technical staff</p>	<ul style="list-style-type: none"> • The Deputy CAO noted that energy consumption and flooding are a serious issue in Moyo, riverbank degraded due to mining leading to siltation. • Moyo has similarities to other refugee-hosting districts and some unique factors. • For example, the refugee population in Moyo is much larger than the host population (184,000 vs. 139,000). • The settlement at Palorinya is also in a former cotton growing area that was then heavily grazed and settled by refugees between 1990 and 2009, so there is little under-storey vegetation and dominance of <i>Borassus</i>

Date and Organization	Issues discussed
	<p><i>aethiopum</i> palms, <i>Ficus spp.</i>, <i>Kigelia africana</i> and other mature remnants; regeneration is inhibited by free-ranging goats and cattle.</p> <ul style="list-style-type: none"> • Palm trees are now being cut for timber, suggesting a high degree of wood shortage. • Plot size is 30x30m, which is very limited for homestead planting and agriculture. • There are 6 Central Forest Reserves (CFRs) in Moyo but only 1 NFA supervisor and 3 patrol men for the whole district; Palorinya is located on the southern edge of Era CFR; NFA lacks the manpower to patrol and protect the Reserve. • Various physical planning issues were mentioned, such as too many access roads, lack of sanitary corridors and irregular allocation of plots. • Most roofing is now done with iron sheets, as grass is traditionally burned to improve grazing land so there is a shortage of thatching material. • Moyo DLG was UNHCR's only IP in 2017, but LWF has been added in 2018; ADRA also work in Moyo with their own funds. • 2017 funding came late so the planting season was missed and most seedlings did not survive; in 2018 the aim is to have tree nurseries in each of the settlement's five zones. • Refugees prefer fast-growing tree species. Examples given were <i>Leucaena leucocephala</i> and <i>Sesbania sesban</i> (both nitrogen-fixing) and <i>Cassia siamea</i>; fruit trees are said to be popular, though very few surviving seedlings could be found within the settlement (grazing and lack of fences is a challenge). • Woodlots have proven hard to establish due to ownership issues and poor management. • Schools are the biggest users of firewood; biogas could be an option to supplement their energy supply, though no cost-benefit analysis has been carried out. • Environmental sensitization and guidance is being provided at the reception centres; Refugees are told they are free to use any resource, but are encouraged to plant trees to replace any they cut; there were initially several woodlots planted as compensation when the previous wave of refugees left, which were used by the newly arriving caseload. • There is potential for regeneration of natural vegetation, as seen after the last refugee group returned, but this is inhibited by grazing animals: locals have many livestock and some refugees have brought in herds too, which are usually looked after by extended family in Uganda. • No EIA has been done for the settlement due to delayed funding, and is not in the plan for 2018. • Solid waste management is lacking (e.g. at markets within the settlement).

Date and Organization	Issues discussed
<p>March 16 LWF, Palorinya settlement</p>	<ul style="list-style-type: none"> • LWF was on the ground during the first 3 months of the emergency in 2016; the first response was marking of 'sizeable multipurpose trees' (red mark – no cut; blue mark >30 cm circumference, only cut if obstructing construction; white mark - spare if possible). • LWF also undertook awareness-raising via community leaders and extensionists. • They gave out 1,000 portable stoves to PSNs and trained others in constructing Lorena mud stoves; refugees were found to be constructing their own stoves upon arrival, so the knowledge was already embedded; this was an interesting point - energy shortage may be sufficient to prompt conservation efforts, arguably making stove promotion superfluous. • LWF recently became a UNHCR IP, though the PPA has only just been signed; they plan to undertake biomass end energy needs assessment, demarcate buffer zones, support tree planting and promote stove construction. • Moyo DLG has taken a strong lead in convening Sector Coordination meeting, which include LWF, ADRA and UNHCR; the aim is to align interventions at settlement level. • Interesting approach to planting as LWF want to support livelihoods rather than forestry, so are focusing on multipurpose fast-growing woody plants for plot and boundary planting (e.g. okra, moringa & pigeon pea); could be a good approach to give fast returns instead of long wait for trees to mature; having said that, seedling survival rates within the camp were observed to be very low indeed, due to lack of fencing and free-ranging livestock. • An Environmental Protection Committee should exist in each zone and meet monthly; these are meant to carry community-level enforcement and make recommendations as needed. • Site visit to teak woodlot owned by a mosque revealed challenges of communal ownership; coppice was not being managed and the woodlot was not maintained. Some opportunity observed for better pruning to produce fodder for wood fuel and straight poles. • Opportunity for livelihood project for production of hydroform bricks in host communities. • LWF is working on WASH in Zone 2 and have replaced plastic lining with concrete – training of women to pour slabs and provide with start-up materials.
<p>March 16 Moyo Deputy CAO</p>	<ul style="list-style-type: none"> • Under the current DRDIP there has been a rush to get projects designed and approved for implementation in FY 2017/18, which ends in June. The emphasis has been on infrastructure (e.g. classroom blocks). From FY 2018/19 there will also be projects supporting livelihoods and environmental protection. • The DLG takes 10% of DRDIP funds for its own operations and oversight.

Date and Organization	Issues discussed
	<ul style="list-style-type: none"> • The process for identifying DRDIP projects will be separate from that for NUSAF; DRDIP will not simply pick up projects that have been deferred under NUSAF, but will initiate its own PRA process at village level in all sub-counties; whether this parallel design process makes sense from a cost-efficiency point of view is perhaps debatable. • Moyo DLG does not yet know how much money it will be allocated under DRDIP, or indeed what the allocation formula is; under NUSAF it is based on population, area and poverty count; for DRDIP the refugee population would also presumably be relevant.
<p>March 17 Adjumani DLG technical staff</p>	<ul style="list-style-type: none"> • DPO noted that impacts on the environment caused by the host community are significant, due to growing population, expanding agriculture and over-exploitation of forest resources; he requested FAO to consider what would have happened in the absence of the refugees? What were the existing trends? What additional impacts can be attributed to the refugee influx? • He sees a need to take a wider development perspective, and to transform the district economy away from agriculture towards a more industrial and urbanized way of life; otherwise resource degradation from agriculture will continue. • Pagarinya settlement was noted to be the most affected/degraded area as it has the highest number of refugees. • DPO also noted that refugees are supported with food, health and shelter, making it logical that fuel should also be provided. Why is this not done? • DNRO claimed that 14 million trees have been destroyed by refugees in Adjumani over successive influxes, but could not provide a data source; refugees are reportedly providing a market for host communities who burn charcoal; wetlands near refugee settlements are being used for off-season crop production. • Suggested interventions: tree planting by giving seedlings to willing farmers (though noting that survival rates are low). • Resources also need to be directed towards plantation forestry, especially in institutions (e.g. prisons). • Settlement planning should include woodlots for firewood. • Meetings on Safe Access to Fuel and Energy (SAFE) are meant to be held quarterly, but the last one was in August 2017. • At strategic level, better planning is needed for zoning of agriculture and forests, with designated harvesting zones and conservation areas, There is reportedly no District Land Use Plan; this would need a participatory planning process with an implementation plan and M&E system. • Ideas for interventions:

Date and Organization	Issues discussed
	<ul style="list-style-type: none"> ○ Additional farmland for refugees (negotiation underway) ○ Investment in piggery and poultry ○ Skills training in sustainable agriculture, agroforestry and boundary planting, plus vocational skills ○ Non-wood forest products (mushrooms, beekeeping etc.) ○ Institutional cookstoves in schools and elsewhere <ul style="list-style-type: none"> ● Would be helpful to know what other african countries are doing for energy and whether viable alternatives exist to woodfuels.
<p>March 18 Adjumani - St. Mary's Assumpta Girls' Secondary School, Pakelle</p>	<ul style="list-style-type: none"> ● Biolatrine constructed at girls' boarding school, but not yet commissioned. ● Several institutional stoves and 3 stone fires currently in use. ● Biogas will provide fuel to supplement the cookstoves and power lighting in dining hall. ● Solar power is not meeting lighting needs (batteries weak).
<p>March 19 FAO debriefing</p>	<ul style="list-style-type: none"> ● The team summarized the main findings from the district visits and consultations. ● FAO noted that the OPM Refugee Dept. tends to work independently of DLGs, given its specific responsibility for the refugee settlements. There have been instances where refugee settlement planning documents and project details are not share. If DRDIP is working with the Refugee Dept, this weak integration with hosting district authorities may be relevant. ● The REDD+ program already has a capacity-building element for DLGs and NFA, which should be useful. ● The idea of supporting district land use planning was raised.
<p>March 19 SPGS Kampala</p>	<ul style="list-style-type: none"> ● SPGS is in its third phase and has opened up new windows of support for communities and institutions to plant trees. ● A new SPGS window could be created for the specific purpose of supporting tree planting incentive mechanisms to insure quality of tree plantation and management. The development of retrospective support, certification of contractors in the refugee context and capacity building together with the District Offices should be explored.

Annex E: Mission Photos

A selection of photos taken during this Joint FAO-UNHCR-WB Mission is provided here - <https://www.flickr.com/photos/faoforestry/albums/72157692680186522/page1>