DREF operation

International Federation of Red Cross and Red Crescent Societies

UGANDA: Yellow Fever Epidemic

DREF operation n° MDRUG019

GLIDE No. EP-2010-000260-UGA

4 January 2011

The International Federation's Disaster Relief Emergency Fund (DREF) is a source of un-earmarked money created by the Federation in 1985 to ensure that immediate financial support is available for Red Cross and Red Crescent response to emergencies. The DREF is a vital part of the International Federation's disaster response system and increases the ability of national societies to respond to disasters.

CHF 195,182 (USD 209,185 or EUR 156,390) has been allocated from the Federation's Disaster Relief Emergency Fund (DREF) to support the Uganda Red Cross Society (URCS) in delivering immediate assistance to some 2,135,700 beneficiaries. Unearmarked funds to repay DREF are encouraged.

Map of Uganda showing districts reporting yellow fever cases as on 27 December 2010

Summary: Three decades since the last case of yellow fever was reported in the 1970s, Uganda experienced the re-emergence of this deadly viral epidemic that started in November 2010 in the Northern Region. Initially, the disease was wrongly diagnosed as plague – only on 23 December 2010 the diagnosis for yellow fever was confirmed by the Center for Disease Control (CDC). By 29 December 2010, 10 districts were already affected with 190 cases and 48 fatalities recorded. The exact prevalence and incidence of yellow fever in Uganda is not known, however, the country lies within the yellow fever endemic zone in Africa that poses a threat of an outbreak due to proximity to some of the countries reporting cases. The Government of Uganda's Ministry of Health with other partners are planning to conduct emergency vaccination campaign in the 10 affected districts targeting over 2,135,700 residents and the Uganda Red Cross Society proposes to support this intervention through intensive social mobilization activities that will promote public awareness about yellow fever, the risk factors for its transmission, its prevention and control as well as encourage the uptake of the vaccines.

This operation is expected to be implemented over 2 months, and will therefore be completed by 28 February, 2011; a Final Report will be made available three months after the end of the operation (by 31 May 2011).

<click here for the DREF budget, here for contact details, or here to view the map of the affected area>

The situation

The Ugandan Ministry of Health (MoH) together with the World Health Organization (WHO), Center for Disease Control (CDC) and other partners have been investigating an outbreak of a disease of unknown etiology in Northern Uganda since early November 2010. Laboratory testing conducted by CDC-Atlanta has now confirmed four (4) positive cases of yellow fever (threepositive by robust molecular sequencing; and one positive by IgM serology). Yellow fever is an acute viral hemorrhagic disease transmitted by infected mosquitoes. Once contracted, the virus incubates in the human body for 3 to 6 days, followed by infection that can occur in one or two phases. The first, "acute", phase usually causes fever, muscle pain with prominent backache, headache, shivers, loss of appetite, and nausea or vomiting. Most patients improve and their symptoms disappear after 3 to 4 days.

However, 5-20 percent of patients enter a second, more toxic phase within 24 hours of the initial remission. High fever returns and several body systems are affected. The patient rapidly develops jaundice and complains of abdominal pain with vomiting. Bleeding can occur from the mouth, nose, eyes or stomach. Once this happens, blood appears in the vomit and faeces. Half of the patients who enter the toxic phase die of multiple organ failure within 10 to 14 days, the rest recover without significant organ damage. Up to 50 percent of severely affected persons without treatment will die from yellow fever. The disease is difficult to diagnose, especially during the early stages. It can be confused with malaria, typhoid, dengue, hepatitis and other diseases, as well as poisoning. There is no cure for yellow fever. Treatment is symptomatic, aimed at reducing the symptoms for the comfort of the patient. Vaccination is the single most important preventive measure against yellow fever. The vaccine is safe, affordable and highly effective, and provides protection for 10 years or more. The vaccine provides effective immunity within one week for 95 percent of persons vaccinated.

The outbreak of yellow fever was first reported from the district of Abim in Karamoja sub-region on 16 November 2010. Since then, additional cases have been reported from nine other districts in Northern Uganda including Agago, Kitgum, Lamwo, Pader, Arua, Lira, Gulu, Kotido and Kaabong. As of December 29, 2010, a total of 190 cases and 48 deaths (CFR 25.3%) had been reported from the ten affected districts and 16 patients were still on admission receiving treatment. Six cases reported in Kitgum actually originated from Lamwo and 9 cases including one death reported in Kitgum originated from Pader.

Table 1: Yellow Fever Cases and Fatalities in Eight (8) Districts in Northern Uganda

SNo	District	New Cases	New Deaths	Cumulative Cases	Cumulative Deaths	CFR (%)	Cases currently admitted in the isolation ward
1	Abim	00	00	34	13	38.2	00
2	Agago	02	00	62	16	25.8	12
3	Kitgum	00	00	65	12	18.5	00
4	Gulu	00	00	04	01	25	00
5	Arua	00	00	02	02	100	00
6	Lira	00	00	15	02	13.3	00
7	Kaabong	01	00	07	02	28.6	04
8	Kotido	00	00	01	00	00	00
	TOTAL	**03**	**00**	**190**	**48**	**25.3**	**16**

Risk Analysis

Outbreak investigation conducted by the National Rapid Response Team revealed that the outbreak of yellow fever started from Abim District in early October 2010. The index case was a 41 year old male who frequented the forest to collect bamboo for sale in the local market. It is postulated that it is at this stage that the yellow fever virus was picked from the wild transmission cycle and introduced to the urban cycle. This was responsible for the subsequent human cases reported in Abim and the rest of the other districts. The following factors are presumed to be responsible for the rapid spread of the infection to the other affected districts:

- The presence of the yellow fever virus in the country. The exact prevalence and incidence of yellow fever in Uganda is not known. However, Uganda lies within the yellow fever endemic zone in Africa. The earliest recorded outbreak in Uganda occurred in 1942 in Bwamba County, Bundibugyo District (Mahaffy et al, 1942). Since then, the last case of yellow fever was reported in the 1970s. During that period cases were reported from Kabarole District in 1952 (Ross et al, 1953); Luwero in 1964 (Haddow et al, 1965); and uninvestigated outbreaks in 1971 (106 cases) and 1975 (14 cases) (Vainio and Curtis 1998).

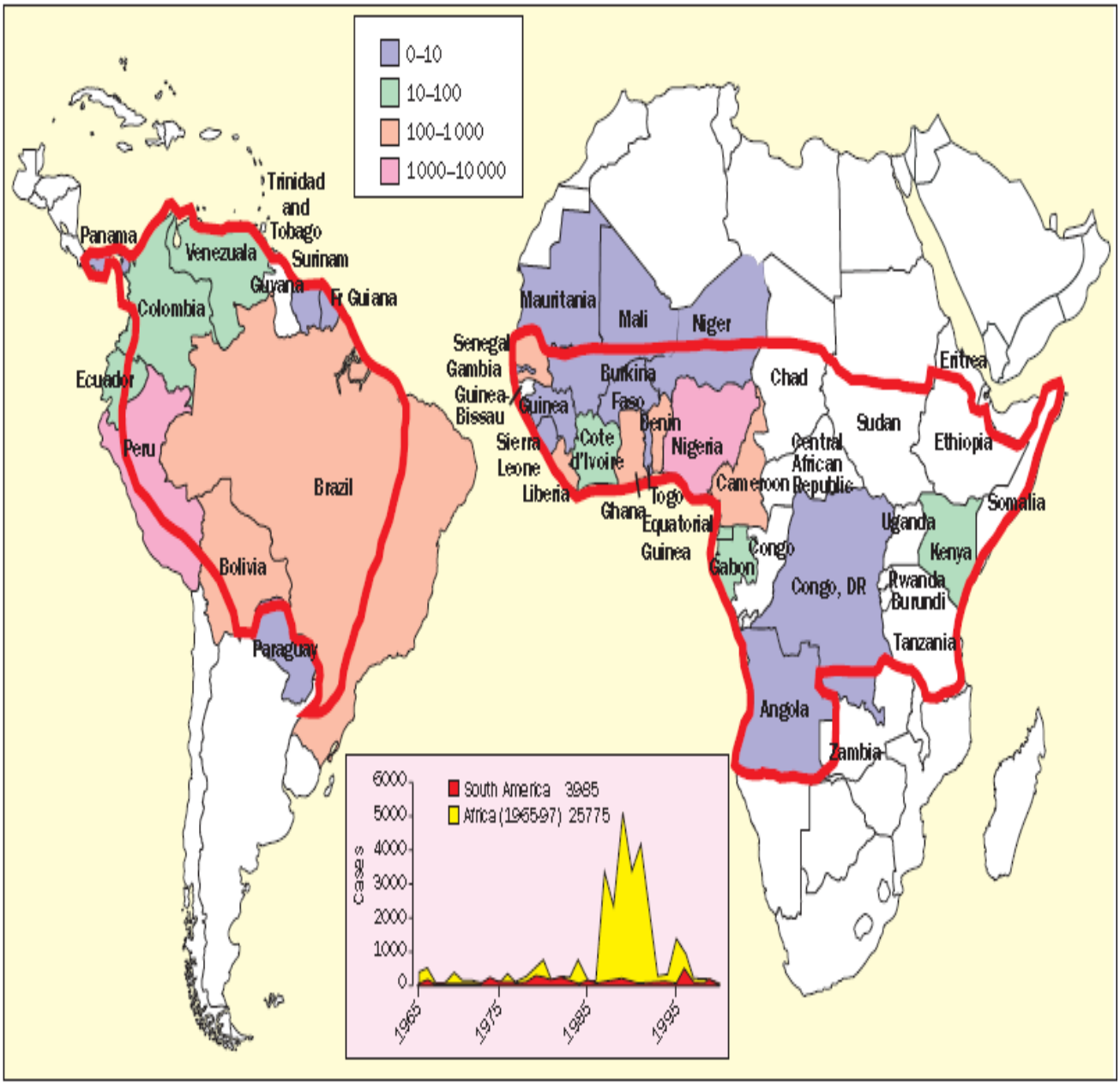

Figure 2. Yellow fever endemic regions (outlined in red), based on serological surveys, field studies, and previous reports of human disease. The range of number of cases of yellow fever officially reported to the World Health Organization, 1990–99, is shown by country. White indicates that no cases were reported. Inset: incidence of yellow fever in South America and Africa over the past 35 years, and the marked increase during the late 1980s–mid 1990s. Regions of the world outside the yellow fever endemic zone infested with Ae aegypti and thus receptive to the introduction and spread of the disease include coastal areas of South America, Central America, the Caribbean, the southern USA, South Africa, India, southeast Asia, Australia (Queensland), southern China, Taiwan, and the Pacific islands.

- The presence of Mosquito vectors: Studies conducted showed that vectors such as *Aedes simpsoni (*Mahaffy et al, 1942); *Aedes Africanus* (Woodall, 1964); *Aedes Egypti* (Haddow, 1965) responsible for transmission of yellow fever from monkey to man, and man to man are present in the Uganda.
- The presence of vertebrate hosts: Studies indicate that yellow fever exists as an enzootic in wild, African forest primates, principally monkeys in Uganda and other parts of East Africa (Kirya et al, 1982). A report from Uganda Virus Research Institute (UVRI) in 1952 demonstrated evidence of infection in monkeys from the areas of Ankole, Bunyoro, Lake Islands, Masaka, Mengo, West Nile, and Tororo.
- Favorable climatic conditions such as prolonged rainy seasons facilitate mosquito breeding and hence increased mosquito populations to sustain an outbreak in humans. The affected areas in Northern Uganda are just emerging from prolonged rains that even resulted in floods in some of the districts. These conditions have therefore favored the current outbreak of yellow fever.

- Large population of non-immune individual: Yellow fever vaccination is not part of the routine national immunization programmes in Uganda. The last preventive immunization for yellow fever was conducted in 2003 in selected sub-counties bordering Southern Sudan in response to an outbreak of yellow fever in Sudan. This therefore implies that the population in Uganda is non-immune to yellow fever, which is largely responsible for the rapid spread of the current outbreak in Northern Uganda
- In order to disrupt further spread of this disease within the affected communities, neighboring districts and countries, the National Task Force developed a response plan that includes activities such as strengthened case management, surveillance, laboratory services, social mobilization and emergency mass vaccination campaign targeting 2,135,700 at-risk populations in the 10 affected districts.

Coordination and partnerships

Since early November 2010, when the disease broke out as a mysterious one in Northern Uganda for which diagnosis was not obvious, MoH partnered with WHO and CDC, African Field Epidemiology Network (AFENET) and others working together to establish the cause of this new disease. In the course of investigations, there was confusion that the cause of the outbreak could have been due to Alcoholic gastritis or plague. Further tests for other diseases such as ebola, E. coli, marburg, dengue, plague and typhoid were negative. On 23 December 2010, CDC confirmed the outbreak as yellow fever and subsequently informed MoH of this discovery. The investigation team is still out in the field carrying out their work to establish the origin and other behaviour of the disease.

Since then, the Epidemic National Task Force (NTF) was reactivated with members coming from a number of government departments, development partners and non-governmental organizations (NGOs) such as WHO, United Nations Children's Fund (UNICEF), CDC, URCS, Makerere University School of Public Health, AFENET, Uganda National Expanded Programme on Immunizations (UNEPI), Belgian Embassy, United Nations Population Fund (UNFPA), United States Agency for International Development (USAID), the office of the Prime Minister (OPM), Italian Cooperation and MSF-Holland. The NTF facilitates information sharing with the public and the affected districts. It also guides the affected districts on outbreak response. For resource mobilization, NTF is in contact with international bodies such as WHO's International Coordinating Group on Yellow Fever Vaccine (ICG). NTF also established surveillance, laboratory, case management, logistics, social mobilization, environment and vector control as well as coordination/resource mobilization working groups to facilitate the technical functions. By the nature of its activities and the strength of community based volunteers, URCS is a permanent member of the social mobilization as well as surveillance working groups.

- CDC, in collaboration with Central Public Health Laboratory (CPHL), received samples from the affected districts in Northern Uganda and will continue supporting the Government of Uganda in investigation and response to outbreaks
- WHO country office is part of the response team supporting the investigation of the outbreak, monitoring the trend of the disease, capacity building and development of the response plan
- The Ministry of Health deployed technical officers to support case investigation, surveillance and case management activities in the affected districts
- The NTF developed a response plan with a budget to respond to the current outbreak. The details of the activities in the plan will be provided by the sub-committees
- WHO and MoH are making efforts to get information on possible outbreak in Southern Sudan as well as alerting all the neighbouring countries about the current outbreak
- Medicin San Frontiers (MSF-Holland) has been supporting with case management in the treatment centres previously established at Kitgum Hospital, Kalongo Hospital and Kanawat HCIII in Kotido District

Through the established district Yellow Fever Task Force coordination fora, every partner's plans as well as activity reports are shared and existing gaps identified to direct new interventions without causing unnecessary duplication of efforts. Other joint activities such as trainings, community mobilization, radio presentations and field monitoring will promote coherence and standardization in the intervention. Through this mechanism, complementarity as opposed to duplication will be promoted and at the same time it will lay a firm foundation for development interventions beyond emergency phase.

Red Cross and Red Crescent action

Being a permanent member of social mobilization sub-committee of the National and district level epidemic task forces, the URCS started participating right from the initial time of investigation of the mysterious disease, but limiting engagement of volunteers since the disease etiology was still unknown. This was

intended to limit putting volunteers at risk, although community health education activities about the disease was initiated as an integral part of the ongoing community health project activities in the reproductive health and HIV home based care projects in Kitgum and Pader districts.

The proposed project will train and deploy 300 community based volunteers in 10 sub-counties to scale up mobilization, case detection and referral mechanism. It will also increase yellow fever awareness at both household and public levels through direct purchase and distribution of Information, Education and Communication materials such as posters, brochures and radio messages that are translated in Luo and Lugbara local languages in addition to weekly radio talks shows on the local FM stations in Gulu, Lira, Arua and Kitgum. The intervention that will make use of the new IFRC Epidemic Control Manual for Volunteers (ECV) tool kit will be more focused on household level actions to facilitate effective reduction in the vulnerability to yellow fever infection.

The needs

Beneficiary selection:
Despite the fact that only four cases were originally confirmed in 2 districts, WHO threshold requires that only one laboratory confirmed case forms an epidemic and recommends for mass emergency vaccination campaign for all residents within the age starting 6 years and above in all 10 affected districts. The population in the target region has just emerged from conflict and the environment they live in is still bush, favoring mosquito multiplication. Some of the communities still live in congested camp settlements and slum areas within the town suburbs with very poor environmental conditions. In Abim and Agago districts, the affected communities are predominantly pastoralists spending most of the time in the wild hence exposure to mosquito bites promoting new infections of yellow fever virus.

Due to the high level of illiteracy in the affected rural and peri-urban population in Karamoja and the war torn Acholi sub-regions, there is generally low level of community awareness on the risk factors of yellow fever transmission, its identification, prevention and control strategies. This has led to panic in the affected communities.

The general needs that exacerbate the yellow fever situation are:

- Due to low level of education, majority of the people in the affected communities lack the knowledge and understanding about the disease and what they need to do to avoid contracting it.
- The high level of poverty makes the residents spend time in the bush hunting for wild animals for alternative diet as well as income and grazing. This implies that the majority of residents in the affected communities are exposed to mosquito bites due to their prolongued presence in the bush.
- There is a general lack of resources for response. The National Task Force developed a plan of action that requires USD 5,609,000 to facilitate the planned activities, where over 50 percent of the funds are required for procurement of vaccines and facilitating the planned vaccination campaigns that must be done before end of January 2011.
- Active surveillance and community follow up cases needs support.

This calls for intensive health promotion campaign to sensitize the affected and/or at risk communities and create public awareness about yellow fever disease, the risk factors for its transmission, its prevention and control among the people in Northern Uganda and prepares them for mass emergency vaccination campaign.

The proposed operation

Emergency Health

Objective 1: To reduce the spread of yellow fever epidemic and related mortality through provision of emergency health services to 2,135,700 people in 6 districts of Northern Uganda over 2 months period.

Expected results	Planned activities
Increased public awareness about yellow fever (the risk factors for its transmission, its prevention and control measures)	• Mobilize and train 180 Village Health Teams (VHTs)/community based volunteers from 10 sub-counties in Epidemic Control for Volunteers (ECV) toolkit • Produce and disseminate IEC messages (35,000 posters, 50,000 brochures, 800 T-shirts) in the 10 affected and neighbouring at-risk districts

	• Shipment of 100 copies of ECV manuals and toolkits • Conduct informal sessions at churches, mosques, markets, temples and other public places to spread yellow fever prevention information • Conduct media campaigns for promotion of public awareness about yellow fever disease (32 radio talk shows and 960 radio spots/jingles will be sponsored to run on 4 local FM radio stations that will reach an estimated 3,000,000 people in the 10 districts) • Conduct 1,800 sessions of household health promotion activities in affected villages by use of ECV toolkits • Support Community mobilization by use of film vans for 3 weeks in 10 districts • Conduct 18 interpersonal communications/advocacy meetings with key local leaders, religious leaders and community representatives in 10 sub-counties.
Improved early detection, reporting and referral of suspected cases through active surveillance (Less than 50 percent case fatality registered in the project areas)	• Orientate and facilitate 180 VHTs/community based volunteers for active case search • Procure and distribute 60 bicycles for facilitating VHTs/volunteers to conduct household visits and referral of suspected yellow fever cases
Improved awareness for increased uptake of yellow fever emergency vaccination campaign leading to at least 80 percent coverage in the 6 affected districts	• Orient 180 URCS volunteers in 6 branches on vaccination campaign. • Support the implementation of the emergency vaccination campaigns in 6 sub-counties in the affected districts • Mobilize target communities (minimum 1,708,560 - 2,135,700 people in 6 Red Cross branches within 6 districts) to turn up for vaccination • Facilitate good public awareness of vaccination post locations • Assist in at-site and door to door vaccination campaign activities • Provide logistical support to vaccination centres (transportation of vaccines, supplies and health staff). • Assist in the organization of the immunization posts • Tick names of vaccination beneficiaries on pre-registration lists • Conduct home follow-up on defaulters • Support post vaccination data collection and analysis • Participate in post vaccination campaign meetings/evaluation activities with MoH and other partners.

Coordination; Monitoring and support supervision

Objective 1: To strengthen coordination and local response by supporting long term epidemic risk reduction actions and participating in the coordination and monitoring mechanisms.

Expected results	Planned activities
All URCS activities are coordinated with all stakeholders and adequately monitored, evaluated and reported on	• Participate in 48 district and 12 national coordination meetings to facilitate effective and accelerated outbreak control activities • Conduct 6 joint inter-agency field monitoring and support supervisory visits in the affected districts and sub-counties • Provide routine technical support to volunteers and field staff • Provide regular reporting of all activities

These emergency actions will be directly linked and integrated into the ongoing health projects in the region including Reproductive Health project supported by Japanese Red Cross, HIV/AIDS home based care project supported by Netherlands Red Cross and the ICRC-supported water and sanitation project in Gulu, Kitgum and Pader districts. This will contribute to sustained mitigation measures against future outbreak of such diseases

How we work

All International Federation assistance seeks to adhere to the Code of Conduct for the International Red Cross and Red Crescent Movement and Non-Governmental Organizations (NGO's) in Disaster Relief and is committed to the Humanitarian Charter and Minimum Standards in Disaster Response (Sphere) in delivering assistance to the most vulnerable.

The International Federation's activities are aligned with its Global Agenda, which sets out four broad goals to meet the Federation's mission to "improve the lives of vulnerable people by mobilizing the power of humanity".

Global Agenda Goals:

- Reduce the numbers of deaths, injuries and impact from disasters.
- Reduce the number of deaths, illnesses and impact from diseases and public health emergencies.
- Increase local community, civil society and Red Cross Red Crescent capacity to address the most urgent situations of vulnerability.
- Reduce intolerance, discrimination and social exclusion and promote respect for diversity and human dignity.

Contact information

For further information specifically related to this operation please contact:

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<DREF budget and map below; click here to return to the title page>

International Federation of Red Cross and Red Crescent Societies

UGANDA YELLOW FEVER OUTBREAK DREF OPERATION

Budget Group	DREF Grant Budget	TOTAL BUDGET CHF
Shelter - Relief		0
		0
		0
		0
Construction - Materials		0
Clothing & Textiles	4,222	4,222
Food		0
Seeds & Plants		0
Water & Sanitation		0
Medical & First Aid		0
Teaching Materials	21,913	21,913
Ustensils & Tools		0
		0
Total Supplies	26,135	26,135
Land & Buildings	0	0
Vehicles	0	0
Computer & Telecom	0	0
Office/Household Furniture & Equipment	0	0
Medical Equipment	0	0
Other Machiney & Equipment	7,237	7,237
Total Land, vehicles & equipment	7,237	7,237
Storage		0
Dsitribution & Monitoring	603	603
Transport & Vehicle Costs	33,757	33,757
Total Transport & Storage	34,360	34,360
International Staff	0	0
		0
National staff	47,685	47,685
NS staff/volunteers	26,054	26,054
		0
Consultants		0
Total Personnel	73,739	73,739
Workshops & Training	23,253	23,253
Total Workshops & Training	23,253	23,253
Travel		0
Information & Public Relation	11,000	11,000
Office Costs	1,206	1,206
Communications	4,584	4,584
Professional Fees		0
Financial Charges	48	48
Other General Expenses	1,708	1,708
Total General Expenditure	18,546	18,546
Cash Transfers to National Socieities		0
Cash Transfers to 3rd parties		0
Total Contributions & Transfers	0	0
Program Support (6.5% PSR)	11,913	11,913
Total Programme Support	11,913	11,913
NS Emergency Fund (1%)	0	0
Shared Services	0	0
Total Services	0	0
TOTAL BUDGET	195,182	195,182

International Federation of Red Cross and Red Crescent Societies
Fédération internationale des Sociétés de la Croix-Rouge et du Croissant-Rouge
Federación Internacional de Sociedades de la Cruz Roja y de la Media Luna Roja
الاتحاد الدولي لجمعيات الصليب الأحمر والهلال الأحمر

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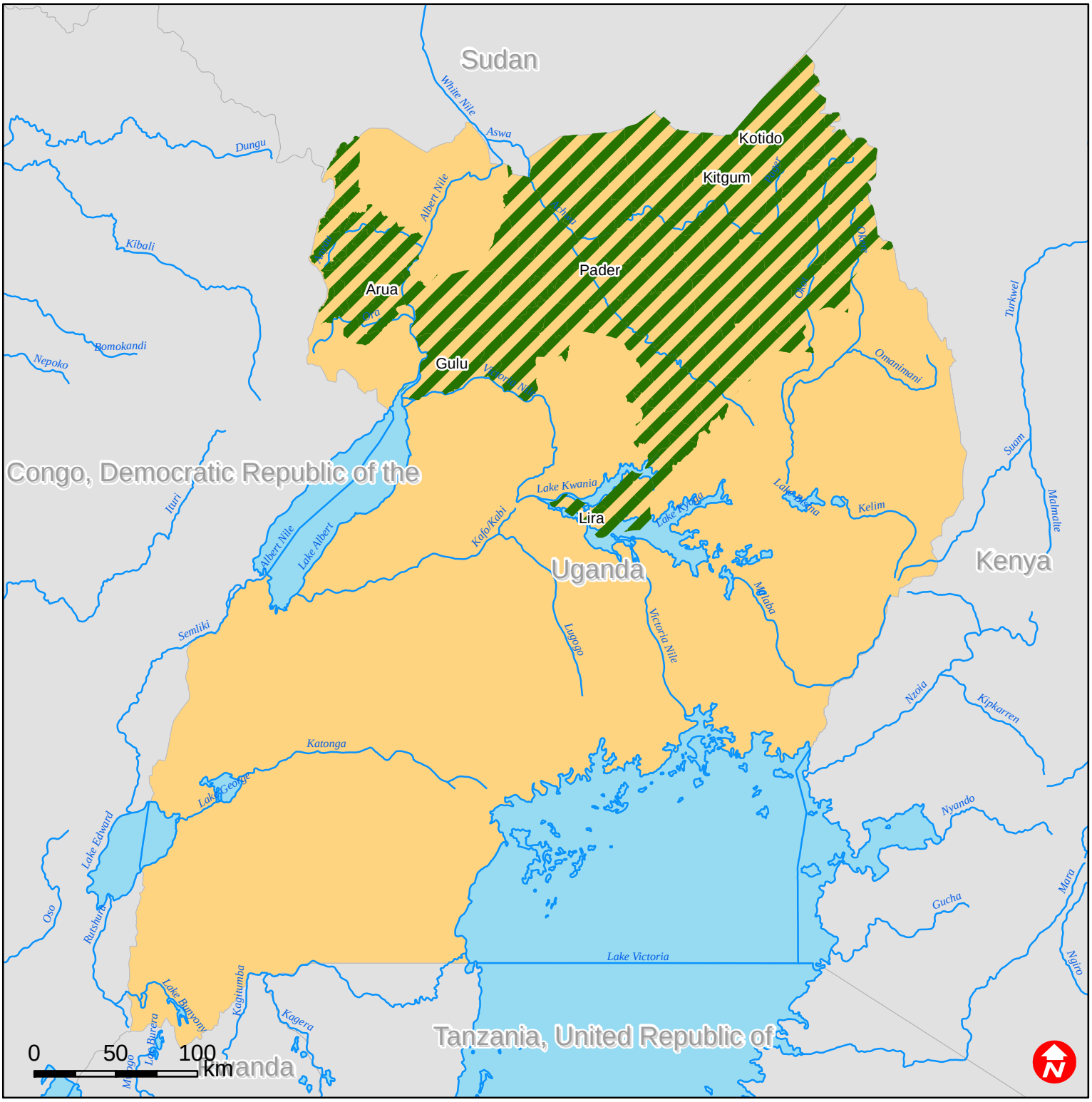

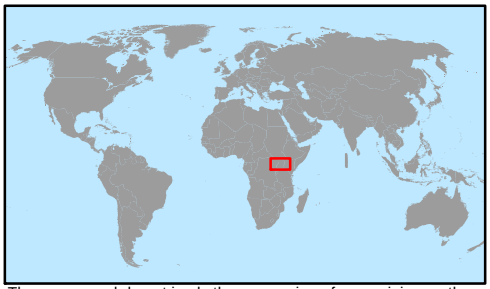

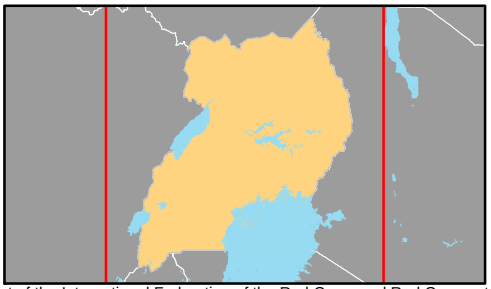

Affected area

The maps used do not imply the expression of any opinion on the part of the International Federation of the Red Cross and Red Crescent Societies or National Societies concerning the legal status of a territory or of its authorities.
Map data sources: ESRI, DEVINFO, GADM, International Federation - MDRUG019.mxd