



Women's Refugee Commission
Research. Rethink. Resolve.



Safe Access to Fuel and Energy (SAFE) Rapid Assessment Report

Ruzizi Plain, South Kivu, Democratic Republic of Congo

November 2014



WOMEN'S
REFUGEE
COMMISSION

Research. Rethink. Resolve.

The Women's Refugee Commission works to improve the lives and protect the rights of women, children and youth displaced by conflict and crisis. We research their needs, identify solutions and advocate for programs and policies to strengthen their resilience and drive change in humanitarian practice.

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Photographs © Nadia Tabaro

Cover photo: Road crossing Ruzizi Plain, South Kivu

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Acronyms & Abbreviations

CDF	Congolese Franc (national currency)
DRC	Democratic Republic of Congo
FARDC	Forces Armées de la République Démocratique du Congo
FDLR	Forces Démocratiques de Libération du Rwanda
FNL	Front National de Libération
FES	Fuel-efficient stove
GBV	Gender-based violence
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
IAP	Indoor air pollution
IDP	Internally displaced person
IGA	Income-generating activities
SAFE	Safe Access to Firewood and Alternative Energy
WWF	World Wide Fund for Nature (formerly World Wildlife Fund)
WRC	Women's Refugee Commission

Executive Summary

Refugees and internally displaced persons (IDPs) — particularly women and girls — face a series of obstacles as they try to cook food for their families. Although food distributed by humanitarian agencies must be cooked before it can be eaten, cooking fuel is rarely provided. Women and girls bear the greatest burden of collecting fuel, often risking attack, rape, robbery, and even death while gathering firewood, often up to 10-20 kilometers into the bush and away from the relative safety of their homes and camps. In places like eastern Democratic Republic of Congo (DRC), the Women's Refugee Commission (WRC) has found that many forests are full of armed militias who attack women with impunity.

In addition, firewood collection degrades the environment, particularly in camp settings where there is often a high population density and lack of resources. The environmental degradation and depletion of natural resources exacerbates many of the challenges faced by displaced populations and host communities, rendering them vulnerable to weather-related harm, undermining agriculture and food security, and forcing women and girls to travel ever farther to collect firewood.

When wood and other biomass fuels are burned, they release harmful smoke and toxic black carbon that pollute the air and cause respiratory infections, eye irritation, and other ailments. The World Health Organization estimates that 4.3 million deaths were attributable to household air pollution (HAP) in 2012, and that HAP from cooking on traditional fires is responsible for nearly 50 percent of pneumonia deaths among children under five.¹ Respiratory infections, lung disease, eye irritation, and blindness are all consequences of exposure to HAP. Traditional three-stone fires also present dangers from burns, which can be particularly devastating where medical care is scarce. Moreover, many families depend on woodfuel-intensive livelihoods, such as selling firewood and manufacturing charcoal, in order to survive economically, which further intensifies protection and environmental concerns.

Recognizing the need for research and advocacy in this area, Women's Refugee Commission launched **Protecting Women and the Environment of the Great Lakes Region of Africa**, a three-year project with the aim of documenting needs, challenges, and potential solutions for safe access to cooking fuel and energy resources for displaced communities in the region. The project comes at a critical juncture, as the combination of natural population growth and long-term, large-scale, and frequent displacement put enormous pressure on the previously abundant natural resources.

A key component of this project is to conduct assessments to determine current needs and challenges related to cooking fuel, protection risks, and environmental degradation in order to establish a baseline for future programming. It is in this context that WRC undertook a rapid assessment in Ruzizi Plain, South Kivu.

Key Findings

The findings from the rapid assessment were largely grouped into three categories looking at the connection between 1) woodfuel and cooking, 2) woodfuel and protection, and 3) woodfuel and livelihoods in Ruzizi Plain.

Woodfuel and Cooking

Women in Ruzizi Plain reported spending, on average, two to three hours cooking per day. They cook indoors and usually have one meal per day due to a lack of food. The majority of them use the traditional three-stone fire for cooking and firewood for fuel. Displaced and host communities alike use firewood for cooking fuel because it is the most affordable option available to them. Charcoal is preferred over firewood due to its higher status and because it produces less smoke and keeps cooking pots cleaner. However, due to its cost, charcoal is generally not used for cooking in Ruzizi Plain. Rather, it is mostly produced by men as an income-generating activity and then sold to people living in Uvira and Bukavu, which are urban areas that are socio-economically stronger than Ruzizi Plain.

Ruzizi Plain is a very insecure region with numerous

armed groups, making it difficult for communities to sustain activities such as agriculture and reforestation. Moreover, the armed groups often rely on firewood and charcoal for their own livelihoods, thereby creating a dangerous degree of competition over natural resources. Due to the high prevalence of insecurity and risks in Ruzizi Plain, coupled with environmental degradation, the demand for firewood outweighs access to a dwindling supply. To deal with this shortage, women, the main collectors of firewood for their families, will often buy firewood and use agricultural waste or other items such as plastic and old clothes for cooking fuel. In many cases, they also resort to negative coping mechanisms, including selling or exchanging food and skipping meals. Such coping mechanisms can have serious consequences, including food insecurity, malnutrition and a loss of livelihood options.

Woodfuel and Protection

Both firewood collection and charcoal manufacturing are considered to be key protection risks for women and men in Ruzizi Plain. Women are the primary victims of sexual and gender-based violence as they collect firewood for household needs. During interviews and focus-group discussions with WRC, women reported that either they themselves or women that they know had been raped during firewood collection. As the primary manufacturers of charcoal, men are also at risk of gender-based violence – primarily physical assault and kidnapping. The perpetrators, in both cases, are reported to predominantly be members of armed groups who, for the most part, also rely on firewood and charcoal for their own income generation.

Woodfuel and Livelihoods

Approximately 20 years ago, Ruzizi Plain was the most fertile area in South Kivu, with agriculture the most important form of livelihood for the people living there. Due to persistent insecurity, the population has been forced to abandon commercial agriculture and resort to subsistence farming.

In order to generate income, both the population and the armed groups in Ruzizi Plain have started exploiting

forest resources, cutting trees for construction, brick manufacturing, and charcoal burning. This behavior has led to serious deforestation and environmental degradation, which threaten food security and livelihoods.

For men, woodlots are also a key form of income generation in Ruzizi Plain. They can sell trees from their lots for construction use in Uvira or Bukavu. Many interviewees reported that most of the armed groups living in the area are charcoal manufacturers, which puts both men and women at risk of attack. Women need to travel to the occupied areas to collect firewood for household use, and men need to fell trees for income generation purposes. The armed groups and refugee men and women are all trying to access the same set of finite resources.

Key Recommendations

Establish a SAFE working group in Uvira

- A SAFE working group in Uvira will help to facilitate a more coordinated, predictable, timely, and effective response to the fuel and energy needs of displaced and crisis-affected populations in Ruzizi Plain. It is recommended that that working group be led by the United Nations refugee agency (UNHCR) and the UN World Food Programme (WFP).

Promote reforestation and the creation of woodlots

- In Ruzizi Plain, deforestation is a key concern and a priority of the DRC government. The promotion of woodlots (sustainably managed firewood/timber harvesting areas, typically planted with fast-growing trees) can help to reverse the trend of deforestation, increase the supply of firewood/timber available to displaced and host populations, and reduce tensions between communities. It will also help to support the development of environmental management skills among the population and facilitate employment opportunities.

Promote the right of women to own land

- In Ruzizi Plain, women are the principal farmers and firewood collectors, yet they do not have the right to own land. A lack of land ownership puts women at greater risk while collecting firewood and prevents them from being able to reforest land. Moreover, when women have secure rights to land, they are better able to provide for their families.

Undertake research on the most appropriate fuel alternatives

- Actions have been undertaken to promote fuel-efficient stoves (FES), but there is no clear data on the efficiency and the impact of FES at the household level. There is significant capacity in the region for alternative fuel and energy sources, such as solar, thermal energy, and gas. Research should be undertaken to identify appropriate cooking technologies and safe alternatives to firewood.

population displacement in the area and continue to put pressure on the environment. Moreover, the region is inhabited by several tribes, including Rega, Fuliru, Bembe, Bangubangu, Banyamulenge, and Barundi (people from Burundi), whose lack of coexistence has also contributed to pervasive conflict. These various conflicts have had a significant negative impact on the local populations and have largely contributed to the difficulty in accessing basic resources faced by many communities.

Discriminatory practices and traditions against women are common in Ruzizi Plain. In terms of other livelihood options, women mostly participate in agricultural related activities, while men work in animal husbandry, timber extraction, and charcoal production. Despite their involvement in agriculture, women are denied land tenure, which prevents them from being able to own farms. Instead, they are only allowed to work as day laborers on farms, which prevents them from being able to substantially improve their socioeconomic status. The majority of the population lives below the poverty line, and women tend to be significantly worse off than men in Ruzizi Plain.

Introduction

Background

Ruzizi Plain is located in the province of South Kivu in the eastern part of Democratic Republic of Congo (DRC). It borders Rwanda in the north and is separated from Burundi to the east by the Ruzizi River. Once known as the breadbasket of the region, Ruzizi Plain is still recognized for its fertile ground and its cultivation of cereals, beans, cassava, and fruits among other crops. However, conflict and environmentally harmful practices are contributing to soil erosion and have resulted in a decline in agro-cultivation, which in turn have reduced the prospects for sustainable commercial agriculture in the region.

Repeated clashes between the Congolese army (Forces Armées de la République Démocratique du Congo (FARDC)) and rebels, as well as between various armed groups, have contributed to massive

Methodology

The purpose of WRC's assessment in Ruzizi Plain was to evaluate and document information on access to cooking fuel and energy for displaced communities – particularly women and girls. More specifically, the WRC had three main objectives for the assessment:

- Understand if and how displaced communities are meeting their cooking fuel and energy needs.
- Identify and analyze protection risks facing women and girls related to access to cooking fuel and energy resources.
- Identify and analyze environmental implications as it relates to cooking fuel and energy resources for displaced communities.

Displaced populations living in the villages of Kiliba, Runingo, Mutahule, Sange, Luberizi, Luvungi, and Kamanyola were chosen as a representative sample

for the purpose of this study. In order to better understand the political and cultural dynamics of the selected villages and their unique contextual challenges, the assessment team received a preliminary security briefing by the security team in Uvira. They also held a meeting with the International Rescue Committee's (IRC) Integrated Health Program coordinator in the Uvira office to gather information on the targeted areas for evaluation. In addition, the assessment team met with local authorities, local and international nongovernmental organizations (NGOs) working in the area, and the leader of the Uvira Environmental Protection Office before conducting extensive consultations with beneficiaries in the pre-selected villages.

In-depth focus group discussions (FGDs) were held with both women and men in each of the preselected

villages, and several household interviews were conducted with displaced and local women. The individual households were selected based on the availability of the participant at the time of the visit. For the household interviews and the FGDs, the assessment team explained the interests of the Women's Refugee Commission, the purpose of the interview and discussion, questions that were to be asked, and the participants' rights to leave at any time or remain silent. WRC obtained informed verbal consent from all participants. Lastly, in each village, the assessment team carried out an observational site visit in the field to directly monitor firewood collection and cooking practices by local women.

For a full list of research methods, refer to the table below:

Research method	Description
Meetings	With local (Farmer's association, Women's business group) and international NGOs (GIZ, WWF), including Women for Women International's Integrated Health Program.
	With village representatives in each village (6 in total), all of whom were men.
	With one key religious leader in each of the seven villages. These leaders were mostly men who have a strong awareness of community challenges.
Focus Group Discussions (FGDs)	FGDs with women's groups, including refugee and displaced women. These groups were developed and are supported by Women for Women International through its program on economic and social integration of vulnerable women. Two FGDs were held in each village, one with young women 18-25 years old and one with women 26-50 years old. Each group had 10-12 women.
Interviews	Individual interviews with men and women in each village, for a total of 35 interviews (28 women, 7 men).
	Interview with the National Environmental Protection Office leader in Uvira, whose jurisdiction includes all of Ruzizi Plain.
	Interviews with women gathered in Farmers' Associations in Kamanyola (4 women) and Sange (5 women).
Direct Observation	WRC monitored and examined the behavior of community members in terms of firewood collection, cooking practices, and other fuel and environment related issues through direct observation in each village.

Findings

Cooking in Ruzizi Plain

As is common throughout DRC, women and girls do most of the cooking in Ruzizi Plain, making them the most vulnerable to household energy-related issues. Women reported that they cook indoors and usually have one meal per day, with an average daily cooking time of 2-3 hours.

Nearly all of the interviewed women, both displaced and local women, reported using firewood for cooking. However, most prefer charcoal due to its higher status and because it produces less smoke, keeps cooking pots cleaner, and saves cooking time. Due to cost, many people are unable to afford charcoal, which is 2,000 CF per bundle as compared to 1,000 CF for a bundle of firewood.

It is important to note that firewood is not always available due to security concerns, and many interviewees reported either having to buy firewood with their very limited resources, using waste from farm products (such as maize and cassava), or using waste materials gathered from the immediate vicinity of their houses. Some women reported that they even use plastic or old clothes to cook their food, and, in some cases, they skip meals altogether due to a lack of cooking fuel.

While some people own and use fuel-efficient stoves (FES) in Uvira, the majority of the population throughout Ruzizi Plain uses the traditional three-stone fire with firewood as cooking fuel. There is reportedly only one FES in the area that uses firewood – a homemade stove promoted by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). The assessment team observed three models of FES that use charcoal – a metallic stove, a homemade clay stove, and a model clay stove promoted by GIZ as shown in the pictures below. People interviewed reported that GIZ's homemade clay stove uses less firewood than the three-stone fire and can cook their staple foods: fofou, beans, and cassava leaves.



A three-stone fire, which is generally used throughout Ruzizi Plain.



A metallic stove commonly found in the market is less expensive than the clay stove.



A home-made clay stove promoted by GIZ .

From 2010-2012, World Wide Fund for Nature (WWF, formerly known as the World Wildlife Fund) and GIZ worked to protect people and the environment of Ruzizi Plain by advocating for the use and manufacture of charcoal burning FES and promoting reforestation through woodlots. The program came to end due to a lack of funding. However, the need for FES is still high, and FES form an important component of the programs designed to reduce household consumption of cooking fuel and thereby reduce the need for unsafe firewood collection by women and girls. They are also critical for mitigating deforestation and environmental degradation in Ruzizi Plain.



Model of clay stoves that have been promoted by WWF in Uvira.



Model of clay stoves that has been promoted by GIZ.

The most common forms of cooking fuel used in Ruzizi Plain are firewood and charcoal. No other regular sources of cooking fuel were reported by any of the interviewees. In fact, apart from electricity, interviewees had never seen or used other forms of cooking fuel or household energy resource. The few homes with access to electricity are only able to use it for limited lighting.

Despite the need and potential for developing other sources of energy (e.g., solar, biomass, thermal) in Ruzizi Plain, no organizations are currently engaged in energy development in this setting. Consequently, the demand for firewood and charcoal continues to be extremely high and often exceeds supply and production. The small woodlots available in the Plain belong to individual men who use them as a source of income by selling the trees in Uvira for construction, timber extraction, or brick burning.



Women collecting firewood.

According to women interviewed in Rungu village, before the conflict, they tended to travel farther outside of their villages in search of firewood in the forest. Now, out of fear of physical and sexual violence, they prefer to stay closer to home and collect cassava and corn waste from local farms. "Cassava waste is the combustible we can find from fields," said one of the woman interviewees (WRC interview, Rungu, July 3, 2013).

Livelihoods

Displaced populations face barriers to employment due to a lack of jobs that match their skill sets, continuous security conflicts, and environmental issues – climate change has resulted in dry marshes that do not support cultivation.

Until 20 years ago, Ruzizi Plain was the most fertile area in South Kivu. According to the Environment and Registry Office, agriculture was the most important source of livelihood in the region. Conflict has displaced close to 900,000 people into South Kivu since 2004.² The current insecurity due to the presence of multiple armed groups (Front National de Liberation (FDLR), FARDC, Mai-Mai and FNL, among others) has forced the population to abandon commercial agriculture and shift to subsistence farming. Rice cultivation used to be a primary source of income generation, but now very few people partake in this agricultural activity due to security issues.

Moreover, both the residents of the area and the armed groups have started exploiting the surrounding forest (cutting trees for construction, brick manufacturing, and charcoal burning) as income-generating activities (IGAs). Over the past 10 years, numerous hills in Ruzizi Plain that were once lush with forest cover are now bare due to overexploitation and excessive tree cutting. The picture above right shows Sange, a village in Ruzizi Plain that has been subject to massive deforestation.

Women in Ruzizi Plain are most often employed as day laborers in the agricultural fields or sell agricultural products (e.g., cassava, maize, potatoes, and vegetables). Since the land in this area belongs to men, women have limited access to tree harvesting for income generation and are only able to sell small sticks that they collect near individual woodlots. If the women are caught by the owner, the sticks may be confiscated.

For male residents of the area and soldiers, one important source of income in Ruzizi Plain is brick manufacturing, which consumes a significant amount of firewood. Woodlots are another key form of income generation for men, as woodlot owners can sell trees from their lots for construction use in Uvira or Bukavu. Many interviewees reported that most of the armed



Massive deforestation in Sange. “Ten years ago, this hill was covered with forest,” said one of the interviewees in Kiliba (WRC interview on June 29, 2013).



Women returning from the farm. In the process they collected firewood in Sange.

groups living in the area are charcoal manufacturers, which puts both men and women at risk of attack from the armed groups when women collect firewood and men cut trees in the occupied areas.



Brick-making site in Luvungi.



Brickmaking is the principal income activity for men in Luvungi; it consumes a great deal of firewood.

Lake Tanganyika, which provides an opportunity for fishing, is an important source of IGA in Uvira, as well as for the Great Lakes Region as a whole. Fishing is mostly undertaken by men, but it is primarily women who sell the fish in the market. Unfortunately, Lake Tanganyika is affected by frequent mudslides from the Uvira hills caused by soil erosion. Soil erosion is the result of deforestation, as there are no longer enough trees to hold the soil together. The mudslides kill fish larvae and limit fish reproduction, thereby negatively impacting fishing as a source of livelihood for fishermen and the women who sell the fish. Lastly, parts of the population, mostly the Banyamulenge, are animal breeders who make a living from livestock products.

Protection

Firewood collection and charcoal manufacturing are considered by nearly all interviewees and humanitarian actors to be a key protection issue. Both firewood collection and charcoal manufacturing has led to physical attacks and gender-based violence (GBV), and reports indicate that the primary perpetrators are armed groups. During FGDs, some women reported that they themselves or other women had been raped during firewood collection.



Women in focus group discussion.

“We do not have land for planting trees to protect our future. We have to feed our families every day, and that is the reason why we can’t stop going out to collect firewood despite all the risks we are exposed to.”

- Displaced woman during the FGD in Sange
July 08, 2013

To protect themselves, some members of the population have adopted negative coping mechanisms, such as forest burning to rout out armed groups that hide amongst the trees. These fires not only end up burning down the targeted forests, but they also ravage the surrounding areas, including field crops and woodlots. This situation creates tension between various communities, including animal breeders, woodlot owners, armed groups, and women who are an already incredibly vulnerable. After a fire, women often collect dead wood clandestinely in the scorched woodlots, as seen in the photo below.



People burning the forest as a protection mechanism.



Women and a young girl collecting dead wood alongside burned woodlots.

In addition, there are tensions between different community tribes regarding access to firewood and other resources, such as agricultural land. Some interviewees reported that conflict between communities over access to combustibles has increased in recent years, and a local leader interviewed in Luvungi reported that there has been an increase in conflict between community members over the past year. He stated that tensions have become progressively more difficult to manage and often result in armed attacks. Furthermore, some community leaders are affiliated with armed groups, which can lead to tensions within the armed groups themselves as well.

Women and girls are often victims of the conflicts in Ruzizi Plain, facing risk of assault, rape, theft, and harassment, as well as other physical harm and psychological damage. During the WRC's assessment, none of the interviewees – women or men – were aware of patrols during firewood collection, and most reported that they do not trust armed groups to protect them. What is more, several soldiers reported to WRC that they face the same risks as the civilian population when they try to access cooking fuel resources.

Environment

Deforestation and environmental degradation are glaringly evident in Ruzizi Plain. An increase in tree cutting for charcoal production, firewood sale, and brick making has exacerbated the deforestation problem and has led to an absence of trees. The displaced populations living in this area are especially vulnerable to the negative effects, most notably in terms of food security, livelihood opportunities, and exposure to protection risks while searching for scarce natural resources.



Road crossing Ruzizi plain, from Bukavu to Uvira.

“Can you imagine that in the last 20 years this area was full of trees? We are almost out of the shadows to take shelter under the hot sun. Now we are nearly living in the desert.”

- Community leader of Luvungi, during interview with WRC, July 12, 2013

Interviewees reported that environmental degradation and diminishing tree cover pose a major problem in terms of access to critical natural resources for cooking and other household energy needs, as well as for income generation purposes. Moreover, women and girls collecting firewood must travel farther and farther, exposing them to numerous risks and hardships. The lack of tree cover due to excessive cutting and burning also means that they are more easily visible to armed groups, GBV perpetrators, thieves, and opportunists as they search for critical resources.

Recently, the Government Office of Environment Protection in Uvira undertook a sensitization exercise with the population around Ruzizi Plain to raise awareness about the negative effects of forest burning on the environment. In addition, they decided to continue

a reforestation program that was started by the WWF, as mentioned above, but which had ended due to a lack of funding.

“We have to do whatever we can to reduce or stop this negative practice on the environment,” said a staff member of the environmental protection office in Uvira. “We do not have enough and appropriate resources, but we will push our limit. Our future depends on it.” (WRC interview in Uvira on June 28, 2013.)

So, while there is recognition by local actors and government officials that they must work to alleviate over-exploitation of and pressures on the environment, there is still much to be done to protect both the people and the environment in Ruzizi Plain. Current efforts to sensitize communities and undertake reforestation programs provide a strong entry point for integrating more SAFE-related activities to ensure a holistic approach to access to energy challenges for displaced and host communities. Going forward, humanitarian actors should engage the Government Office of Environment Protection and other local actors on SAFE as much as possible to help facilitate sustainable practices, community buy-in, and systemic change.

Conclusion and Recommendations

Implementing a comprehensive set of SAFE activities is increasingly important in Ruzizi Plain for several reasons related to the protection of internally displaced women and girls, as well as host community members and the environment:

- The supply of firewood in Ruzizi Plain is becoming scarce. Women must often travel four to six hours to collect firewood in unsafe areas occupied by armed groups where they are at high risk of sexual and physical violence.
- The lack of firewood in Ruzizi Plain leads to severe tensions and conflict among communities, which is difficult to manage given the presence of multiple

tribes and armed groups.

- The massive deforestation has negative effects on livelihoods and compromises the safety and well-being of numerous families who rely on forest resources for their survival.
- The extent of deforestation in Ruzizi Plain puts the region at risk of desertification and mudslides, which are already occurring on Tanganyika Lake, one of the key natural resources for the entire economy of the Great Lakes Region.

The solution for issues identified in this report reside in effective implementation of a comprehensive SAFE program, including coordination among local, national, and international organizations working in Ruzizi Plain and abroad. Taking into account the suggestions collected during interviews and focus group discussions, the assessment team makes the following recommendations:

Establish a SAFE working group in Uvira

A SAFE working group will allow for interagency collaboration and effective implementation of multi-sectoral SAFE programs through joint assessments, evaluations, strategic planning, program design, and project implementation. Given the cross-cutting nature of SAFE, it is especially important that humanitarian staff collaborate and coordinate across sectors (including protection, food security, livelihoods, environment, health, shelter, and camp management) on SAFE activities and strategies. It is recommended that the United Nations High Commissioner for Refugees (UNHCR) and World Food Programme (WFP) lead this working group, given their organizational commitments to safe access to fuel and energy, as well as their respective capacities to implement SAFE programming. There are currently SAFE working groups in both Goma and Bukavu, and a DRC national SAFE working group is in the process of being developed. All three of these groups in DRC, as well as the global interagency SAFE Steering Committee, can serve as a resource for their Ruzizi Plain counterparts.

In the past, significant actions have been undertaken by other organizations in Ruzizi Plain, but a lack of effective coordination has minimized their impact. Moreover, there has been duplication of activities, such as the promotion of the same FES in the same area. A SAFE working group will help to ensure complementarity, prevent duplication, and maximize resources.

Promote reforestation and the creation of woodlots

Particularly in Ruzizi Plain, deforestation is a key concern and a priority for the DRC government. The promotion of woodlots (sustainably managed firewood/timber harvesting areas, typically planted with fast-growing trees) can help to reverse the trend of deforestation, increase the supply of firewood and timber available to displaced and host populations, and reduce tensions between communities. It will also help to support the development of environmental management skills among the population and facilitate employment and income generation opportunities. Additional research should be undertaken to confirm the most appropriate species of trees for Ruzizi Plain. Further to this point, it is recommended that diverse species are incorporated into the tree-planting activities – for example, fruit trees can provide much-needed nutrients to communities and serve to generate income.

Promote the right for women to own land

Women produce nearly half of the food grown in the developing world. Often, they do not have secure rights to the land they farm and are denied equal rights to access, inherit, or own it. As a result, these women are at an increased risk of losing their source of food, income, and shelter should they lose their only link to the land they till: male family members taken by illness, violence, or migration.

In Ruzizi Plain, local laws are not understood or enforced. Instead, communities follow cultural norms and practices that continue to be imposed by village leaders. Women are the principal farmers and firewood collectors working in this region, yet, as mentioned

above, they are not afforded the right to own land. Consequently, they are not in a position to reforest land. Given that women are most affected by the risks related to firewood collection and environmental degradation, assigning them land will help to promote agro-forestry and protect their livelihoods, as well as protect the environment.

While displaced men in Ruzizi Plain may also have difficulties in accessing land, they are not culturally forbidden from owning it the way that are women. The challenges of displacement are compounded by gender discrimination and its associated risks for women, and it is highly recommended that local leaders are sensitized on this issue. Through education and awareness about the potential positive outcomes, local leaders are more likely to overcome cultural barriers and assign land to women's associations in Ruzizi Plain.

Undertake research on the most appropriate stove and fuel options

Even within the same community, there is often a need for different types of stoves. User practices and preferences, family size, food type and quantity, and cooking fuel are all key factors in selecting, procuring,

designing, and/or producing an appropriate fuel-efficient stove. Some women may be more willing, likely, or able to maintain and repair mud or clay stoves, for example. Some may prefer to cook indoors, while others prefer to cook outdoors. Furthermore, it is essential to balance efficiency with sustainability and users' ability to effectively and efficiently use the stove and fuel.

With woodfuel becoming scarce, organizations and users must explore alternatives such as briquettes, ethanol, solar energy, kerosene, LPG, biogas, and biodiesel. The nature and use of each fuel type is different and must be considered when designing fuel interventions and promoting a fuel shift.

Actions have been undertaken to promote fuel-efficient stoves in Ruzizi Plain in the past, but there is no clear data on the efficiency and the impact of fuel-efficient stoves at the household level. The assessment team did not find information or data on briquette promotion, even though the region has significant capacity to manufacture an appropriate briquette model. There is also significant capacity in the region for the use of other fuels such as solar, thermal energy, and gas. Research should be undertaken to identify safe and sustainable alternatives to firewood.

Annex 1: Mission Itinerary

Uvira	28 June 2013	<ul style="list-style-type: none"> - IRC office Uvira - Security briefing - Meeting with environmental protection office leader - Meeting with Women for Women office leader
Kiliba	29 June 2013	<ul style="list-style-type: none"> - Meeting with local authorities - Household interviews
Runingo	2-3 July 2013	<ul style="list-style-type: none"> - Meeting with local authorities - Focus group discussion with elderly women - Focus group discussion with men
Mutahule	4-5 July 2013	<ul style="list-style-type: none"> - Meeting with local authorities - 2 focus group discussion with women (18-25 and 26-50) - Household interviews
Sange	8-9 July 2013	<ul style="list-style-type: none"> - Meeting with local authorities - Focus group discussion with young women (18-25) - Interview with other stakeholders (animal breeders, charcoal sellers, farmers)
Luberizi	10-11 July 2013	<ul style="list-style-type: none"> - Meeting with local authorities - Household interviews - Focus group with women (18-25 and 26-50) - Interviews with young boys (14-19 years old) - Interview with other stakeholders (FARDC soldiers, woodlot owner)
Luvungi	12-13 July 2013	<ul style="list-style-type: none"> - Meeting with local authorities - Household interviews - Field visit - Focus group discussion with women (18-25 and 26-50)

Annex 2: Participatory Assessment Template

Focus group discussion or household interview template for protection/SAFE

Instructions

Please ensure the following requirements are in place *before* undertaking a focus group discussion or interview:

- Always begin a focus group discussion by explaining the procedures and objectives for the discussion. Make sure that all participants are aware of who you are, why you are interviewing them, what types of questions you will be asking, and how any information you obtain from them will be used.
- Be certain that all participants understand the format and discussion topics in advance and can choose not to participate if they are in any way uncomfortable.
- Always obtain permission to quote interviewees and/or to take pictures.

The following statement may be adapted for use in advance of a focus group discussion/interview to ensure that interviewees are aware of and comfortable with the process:

"I am interested in learning about your views on the type of fuel you use for cooking. I would like to ask your permission to interview you and other people in your community about things like firewood, how you collect it, and how safe you feel doing so. If you prefer not to answer certain questions, please feel free to keep silent. This information will be used in [example only: evaluating different types of cooking fuels] and shared publicly with the aim to educate others about what fuels work best in your situation, which you prefer, and why. It is important that you understand that any personal information that we gather in this discussion will be treated with the utmost confidentiality, unless you expressly request or allow us to use your name or photograph. I expect our talk to last about [length of time]. Do I have your permission to begin?"

List of Questions for Group Discussion/Focus Group

GENERAL COOKING-RELATED QUESTIONS:

1. What foods do you normally cook? How long does it take to cook them? How many meals per day do you cook? How long does it take?
2. Where do you cook? (Indoors, outdoors, both?) Where do you prefer cooking and why?
3. Which type of fuel do you use for cooking? How much do you use on average per week? [or per meal if easier to calculate]
4. What/how did you cook before displacement?
5. How do you prepare the food before you cook it? (e.g.: soaking beans, cutting vegetables, etc., into small pieces).
6. What is the most important part of cooking for you? (Apart from making food edible, of course!) – the social aspect (cooking with other family members, for example), having a fire to gather around, the act of providing for your family, etc.

7. For what other purposes (if any) do you use firewood/fuel?
8. What do you currently use for cooking? (i.e.: 3-stone fire, improved stove, other?).

[Note, questions below assume firewood/3-stone fire. If other cooking methods are in use, this section will be adapted]

9. How do you get your firewood? (i.e.: do you collect it yourself, rely on others to collect it, do you purchase it or is it given to you?).

IF FUEL IS COLLECTED BY ONESELF:

10. How often must you collect it (per week)? How long do such trips take (in hours)?
11. Do the trips take longer than they used to?
12. Do you go alone or with others? How many others? Where exactly do you go?
13. Why do you go there?
14. Do you do anything else while you are out collecting firewood? (e.g.: day labor, tend fields, collect food or shelter materials, etc.).

(Try to determine relative portion of time collecting wood vs other activities; also if firewood collection is the primary reason for leaving and other activities are just done if possible, or the other way around – that is, firewood collection occurs if firewood is available during the course of other activities.)

IF FUEL IS PURCHASED:

15. Where do you purchase it?
16. How much roughly do you spend per week? How much does a bundle of firewood cost?
17. How long does it last you?
18. Where do you get the money from?
19. Why do you purchase the wood rather than collect it yourself? Did you use to collect it before? If so, what do you with the time left by not collecting firewood?
20. Has the cost of firewood changed over the time you have been displaced?

IF FUEL IS GIVEN:

21. Who is providing you with cooking fuel? How often? How much?
22. Is the amount you receive enough to cook for your family every day?
23. Is it enough to cover the other needs? If not, how do you supplement the wood you're given?
24. Have you discussed your firewood/fuel needs with the agency that gives it to you?

AMOUNT OF FIREWOOD:

25. Do you feel you have enough fuel to cook the number/amount of meals you would like to, thoroughly?
If not, what do you do to cope? (Skip meals; undercook meals; purchase or trade for remainder, etc.).
26. If you trade for fuel, what do you trade?
27. Do you ever trade food? If so, do you still have enough to eat?
28. Have you heard of any women being forced to trade favors for food, fuel, or other goods? (Try to determine if any negative coping mechanisms or risky behavior is being used to obtain sufficient fuel.)

GENERAL QUESTIONS ON PROTECTION:

29. Is there something that you fear inside the camp/outside the camp? What/who makes you feel unsafe?
30. Is this a recent concern, or has it been there for a long time? How do these concerns compare with how you felt about collecting firewood before you were displaced?
31. Does the same person who collected firewood before displacement still collect it, or is it a different person? If different, what is the reason for the change?
32. Are there times/days where you feel safer to leave the camp? Why?
33. Are there circumstances/locations where you feel safer? Why?
34. What would make you feel safer?
35. What would you normally do to protect yourself?
36. Have you ever heard of something happening to your neighbour inside/outside the camp? What exactly?
37. What did she/he do about it?
38. How do you feel about peacekeeping forces? Do they make you feel safer?
39. (*Explain concept of firewood patrols.*) Would you ever participate in a firewood patrol? Why or why not?

Individual Interview Questionnaire

PRE-CRISIS SITUATION

1. What was/were the primary source(s) of cooking fuel before the crisis? From where were they sourced (Collected; purchased; distributed, etc.)?
 - Primary source(s) of fuel?
 - If collected – from where?
 - If purchased – what was the per-unit cost?
 - If distributed – by whom/what agency, etc.? For how long and what reason?

2. Were there any concerns surrounding the collection, supply, or use of fuel before the crisis (cost; supply chain management; environmental sustainability; health/safety; protection risks; malnutrition; host community/government restrictions, etc.)?
3. Are there any cultural customs for which cooking fuel is typically used (Family fire; religious/spiritual purposes, etc.)?
 - For which, if any, other purposes is cooking fuel (household energy) typically needed/used? What type?
 - o Heating
 - o Lighting
 - o Other
4. What role, if any, did household energy play in the pre-crisis economy (collection/supply of fuel; distribution/selling of fuel; street vendors selling cooked foods, etc., as livelihoods activities)?

POST-CRISIS SITUATION

5. How is the population currently cooking their food? What type of cooking fuel(s) and/or device(s) is/are being used? For which types of meals (Full meals, tea, snacks, etc.)?
6. From where is the fuel/cooking device (if any) being obtained?
 - Distributed by government/humanitarian agency or other
 - Population collecting it on their own:
 - o Primarily women/girls
 - o Primarily children
 - o Both men and women
 - o Other details?
 - Population is purchasing it:
 - o Cost?
 - o Other
 - If being distributed:
 - o What is the per-unit cost?
 - o From where is it being sourced?
 - ◆ Locally, from _____
 - ◆ Imported, from _____

7. Is the amount of fuel being obtained/distributed sufficient? [YES/NO]
8. What type(s) of foods are being cooked? Is the population familiar with these foods?
9. When (at what time of day) and how frequently are meals cooked?
How long does the average meal take to cook?
10. Does the population cook • indoors or • outdoors?
11. Is this different than pre-crisis? If so, what are the health, socio-cultural, or other implications of this change in practice?
12. What is the average household size?
13. What fuel(s)/devices are being used in institutional settings? From where is this fuel/device being sourced?
 - Schools
 - Clinics/hospitals, etc.
 - Emergency/therapeutic feeding centres
 - Other _____
14. Are there immediate protection concerns associated with fuel collection? [YES/NO]
15. If YES, what is the origin of the concern?
16. Ongoing conflict in the vicinity of the settlement/fuel collection area:
 - Landmines, animals, dangerous terrain, etc.
 - Negative coping mechanisms to address lack of/insufficient cooking fuel (survival sex, etc.)
 - Threats from army/police personnel/border guards, etc.
 - Threats from militia
 - Threats from bandits/opportunists
 - Threats from host population
 - Other _____
17. What fuel does the host population use for cooking? (if applicable)
18. Are there outright, past, or potential conflicts between the displaced/host population over access to cooking fuel resources? [YES/NO]
 - If YES, describe:
19. Is there a potential for medium- or long-term environmental degradation caused by current cooking fuel collection/use practices? [YES/NO] If YES, are any measures in place to mitigate this risk? [YES/NO]

20. If yes, what are they?

- Reforestation activities

21. By whom (government/host community or similar; humanitarian/development agency or similar; affected population (including as cash/food for work activity); other)?

22. Woodlot planting/management

23. Managed by whom (government/host community or similar; humanitarian/ development agency or similar; affected population (including as cash/food for work activity); other)?

- Training on sustainable harvesting practices
- Efforts to reduce fuel consumption
- Other _____

24. What, if any, are the health/safety implications associated with the current primary cooking fuel?

- Population cooks with solid fuel indoors → indoor air pollution increases risk of acute respiratory infections
- Population cooks with open fire → increased risk of burns
- Population lives in dense concentrations → increased risk of fires
- Undercooking due to insufficient fuel → increased risk of foodborne disease/malnutrition
- Lack of familiarity of the population with the fuel → increased safety risks
- Unsafe or insufficient transport/storage capacity → increased safety risks
- Other _____

25. What are the primary shelter construction materials (for rebuilding)?

- If timber, from where is it sourced?

26. Are timber/shelter construction materials and fuelwood in competition? [YES/NO]

- If YES, describe:

27. What, if any, livelihoods activities are underway?

28. Are any specifically fuel-intensive?

- Sale of firewood
- Wood/timber-based construction activities
- Brick-making

- Charcoal-making
- Brewing
- Other _____

29. What is the status of transportation infrastructure, both immediately surrounding the area(s) of displacement as well as into the area(s) of displacement? [specify URBAN/PERIURBAN/RURAL]

30. What are the laws/regulations regarding the displaced populations' access to/ability to use/harvest from local land?

31. Are there any concerns/restrictions re: importation of cooking fuels/devices from outside the country? [YES/NO]

If YES, what are they? [Check all that apply]

- Cost
- Laws/restrictions
- Security, banditry
- Supply chain
- Transportation infrastructure
- Other _____

Notes

1. World Health Organization, Household Air Pollution and Health Key Facts: <http://www.who.int/mediacentre/factsheets/fs292/en/>.
2. UNCHR. *DRC: Grave human rights abuses as thousands continue to flee in South Kivu* (10 December 2012) <http://www.unrefugees.org.au/news-and-media/news-headlines/drc-grave-human-rights-abuses-as-thousands-continue-to-flee-in-south-kivu>.
3. Information can be obtained from WFP.
4. Information can be obtained from other rapid assessments.



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