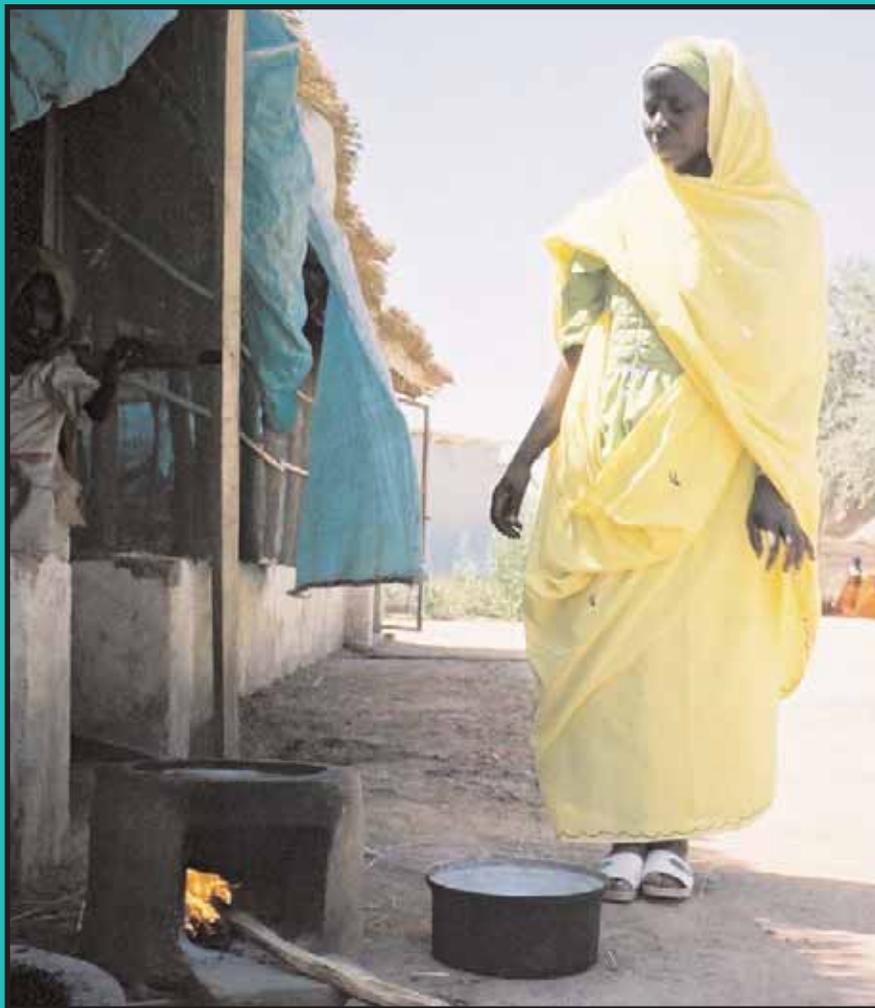




Finding Trees in the Desert: Firewood collection and alternatives in Darfur



Women's Commission for Refugee Women and Children

March 2006



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Mission Statement

The Women's Commission for Refugee Women and Children works to improve the lives and defend the rights of refugee and internally displaced women, children and adolescents. We advocate for their inclusion and participation in programs of humanitarian assistance and protection. We provide technical expertise and policy advice to donors and organizations that work with refugees and the displaced. We make recommendations to policy makers based on rigorous research and information gathered on fact-finding missions. We join with refugee women, children and adolescents to ensure that their voices are heard from the community level to the highest levels of governments and international organizations. We do this in the conviction that their empowerment is the surest route to the greater well-being of all forcibly displaced people.

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NOTE

Cooking fuel is traditionally seen by both displaced communities and humanitarian organizations as a “women’s” issue, since it is a part of the cooking process. Because of this, the burdens associated with its collection fall almost exclusively on women and girls. In refugee and IDP settings worldwide, it has become common knowledge that women and girls are often at their most vulnerable when gathering fuel, often alone, in remote environments outside the camps.

The Women’s Commission for Refugee Women and Children has undertaken a project looking at fuel alternatives that, if used in place of firewood, might help protect refugee and internally displaced women and girls. The main report, *Beyond Firewood: Fuel Alternatives and Protection Strategies for Displaced Women and Girls*, is available at www.womenscommission.org/pdf/fuel.pdf. A case study on Nepal, *The Perils of Direct Provision: UNHCR’s response to the fuel needs of Bhutanese refugees in Nepal*, can be found at www.womenscommission.org/pdf/np_fuel.pdf.

ACRONYMS

AU	African Union
ACTED	Agency for Technical Cooperation and Development
AMIS	African Union Mission in Sudan
CFC	Ceasefire Committee (of the African Union Mission in Sudan)
CHF	Cooperative Housing Foundation
CivPol	(African Union) Civilian Police
ECU	Emergency Coordination Unit (of the Food and Agriculture Organization)
FAO	Food and Agriculture Organization
GBV	gender-based violence (also known as SGBV; sexual and gender-based violence)
IDP	internally displaced person
IRC	International Rescue Committee
INGO	international nongovernmental organization
ITDG	Intermediate Technology Development Group (Sudan; also known as Practical Action)
MSF	Médecins sans Frontières (Doctors without Borders)
PRM	Bureau of Population, Refugees and Migration (US Department of State)
NGO	nongovernmental organization
NRC	Norwegian Refugee Council
OCHA	Office for the Coordination of Humanitarian Affairs
RAAP	Refugee-Affected Areas Rehabilitation Program (of UNHCR)
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children’s Fund
UNMIS	United Nations Mission in Sudan
UNMIS-HR	United Nations Mission in Sudan – Office for Human Rights
WFP	World Food Program

EXECUTIVE SUMMARY

Internally displaced women and girls in Darfur are at risk of rape, harassment and other forms of violence every time they leave the camps to collect firewood. They often have no choice but to take this risk, since there are few other sources of cooking fuel or income available to them. The situation grows more dire every day, as the threat persists and the trees are getting scarcer and the women and girls must go farther from the camps to find wood. Darfur is mostly desert, and the few trees that provided a nearby source of cooking fuel when the camps were first created more than two years ago are long gone. Women and girls must walk three to six miles or more, three to five times per week, just to find a single tree. When trees cannot be found, they resort to digging by hand in the hard clay soil to find pieces of roots that might be combustible – as evidenced by the proliferation of holes that surround many of the camps.

In response to these massive physical and environmental protection concerns, various UN agencies and nongovernmental organizations (NGOs) have implemented a variety of strategies aimed at either protecting women and girls as they collect firewood, or at reducing the amount of firewood needed for cooking. Even using fuel-efficient technologies, however, does not always reduce the frequency of firewood collection, since many displaced women and girls depend on the sale of firewood as their sole means of earning income. While all fuel-related initiatives have an important role to play in reducing the risks faced by women and girls in Darfur, they will not be fully successful without equally concentrated efforts at developing alternative income generation activities.

PHYSICAL PROTECTION

African Union Civilian Police (AU CivPol) and Ceasefire Committee (CFC; the AU protection force in Darfur) soldiers began firewood patrols around a few camps in Darfur in 2005. For the most part, the patrols consist of two trucks containing unarmed CivPol and armed CFC staff that follow the women along a pre-determined

route to the collection location. While patrolling firewood collection routes can have beneficial effects, it is so far uneven and does not occur with regularity or predictability.

A key concern regarding the firewood patrols in Darfur is the profound lack of clarity regarding the scope of CivPol and CFC's protection mandates – particularly, whether or not the forces are authorized to directly intervene to protect civilians in danger. This lack of clarity has strong implications both for the safety and security of women and girls participating in the patrols and for their willingness to engage with the patrols in the first place. The role of the government of Sudan's police forces has also been a source of tension among participants.

For these reasons, direct consultation with displaced women regarding their needs and concerns before beginning any patrols is crucial. Further, patrols will only succeed with ongoing, frequent communication among the interested parties. In Darfur, such communication has occurred largely through frequent meetings of “firewood patrol committees,” which consist of internally displaced women and girls, CivPol and facilitating NGOs. The committees provide displaced women with an important venue for airing their concerns regarding the patrols, as well as for building trust and relationships with CivPol.

ALTERNATIVE FUELS AND FUEL TECHNOLOGIES

In order to address the related problems of gender-based violence (GBV) during firewood collection, scarcity of wood and environmental degradation and reliance on the sale of firewood for income, the priorities for alternative fuel development in Darfur are at least threefold: 1) the use of locally available materials to 2) make locally producible fuels for which 3) there is not a strong outside market (to discourage sale of the fuel and replacement with firewood).

The most important feature of any cooking

technology for most displaced women interviewed by the Women's Commission in Darfur is cooking time – the faster the better. The use of fire for cooking is also crucial. For this and a variety of other reasons, women in Darfur are very reluctant to use or even consider solar cookers. Few other alternative fuels have yet been tried on even a small scale and it is therefore difficult to assess their appropriateness.

Although there are many models of fuel-efficient stoves currently being used in Darfur, including stainless steel or other metal models, by far the most widespread and accepted “improved” technology in Darfur is the basic mud stove. Ingredients and design vary from region to region and even camp to camp, but most are made by hand from a mixture of clay, water, animal dung or ash, and are built around a triangle of three bricks, on which the cooking pot rests. Depending on the model of stove, conditions during use and technique of the user, the fuel-efficient stoves can reduce firewood consumption by 20 to 80 percent.

Fuel-efficient stoves have the most impact when combined with fuel-efficient rations (including food baskets with which women are familiar) and cooking techniques (such as sheltering fires from the wind and pre-soaking beans). However, even if a savings of 80 percent is achieved, the stoves still rely on wood – a fuel which is unlikely to be sustainable in the long term in the increasingly arid environment of Darfur.

DATA COLLECTION, REPORTING AND ADVOCACY

Data collection is problematic in Darfur. There is no effective centralized system for reporting information on incidents of GBV or means of determining where GBV incidences are particularly high and where targeted interventions might be most needed. Further, there is no reliable information on trends in GBV nor any means of determining – statistically – the overall effectiveness of the interventions that have been tried. The lack of solid data inhibits advocacy efforts, particularly with donors.

THE NEED FOR COORDINATION

The various fuel-related initiatives underway in

Darfur have been started by a wide range of actors with a wide range of interests and mandates. However, there is little – if any – coordination among this wide range of actors regarding their respective projects. The lack of coordination and communication to share information or to make use of lessons learned by various agencies also results in a significant amount of reinventing the wheel.

Similarly, there is little Darfur-wide coordination, particularly with regard to international NGOs (INGOs). Instead, NGOs working on GBV efforts or fuel-related initiatives, for example, are thinking strictly on a North Darfur or South Darfur basis, in some cases limiting overall effectiveness.

The extremely difficult environment in Darfur has led to nearly constant staff turnover in all agencies – UN, INGOs and local staff alike. This turnover has resulted in lack of communication both among and between agencies and a lack of institutional memory. Fuel-related initiatives have been tried and re-tried by various organizations, but lessons have not been learned because projects/results of projects are not shared or even passed down within the same agency. Further, though various consultants have been engaged on the issue for at least a year in Darfur, the findings or reports have not been widely shared and there is very unequal knowledge among agencies and regions as to who has done or is doing what.

DEVELOPMENT OF INCOME GENERATION ACTIVITIES

As noted above, even women who have made and consistently use fuel-efficient stoves continue to put themselves at risk by collecting firewood since there are few other means for them to earn income. For this reason, no fuel-saving or improved cooking technologies introduced in Darfur will have a strong impact on the number of women collecting firewood outside the camps or the frequency of collection unless such interventions are accompanied by alternative income generation activities.

In order to offset the appeal of collection and sale of firewood, a successful income generation activity must offer financial returns equal to or greater than those accrued from the sale of firewood. Further, successful income generation activities are

likely to be as practical in nature as possible, use locally available materials and should be targeted to specific markets. Income generation activity schemes that have been or could be tried in the region include milling cooperatives, mesquite briquette production and large-scale fuel-efficient stove manufacture.

Increasing the coverage of fuel-efficient stoves in both displaced and local communities can help to shrink the overall market for firewood and therefore – if combined with development of alternative income generation activities – can discourage firewood collection for income purposes.

CONCLUSION

Reducing the need for displaced women and girls to put themselves at risk of assault during firewood collection is an extremely complex task, with no single solution. Only a variety of interventions, undertaken simultaneously and in several different sectors, can hope to solve the problem. Fuel-efficient stove programs should be promoted by all protection actors – in a coordinated manner – in order to create conditions in which women can use less firewood. At the same time, the AU must expand its patrols to protect women and girls on the occasions that they do collect wood, and UN agencies and NGOs must work to help increase the opportunity of IDP women to earn income through something other than selling firewood.

RECOMMENDATIONS¹

Collection and use of firewood in Darfur is an extremely complex issue, since it necessitates the involvement of actors with very different interests and mandates. There is therefore no single solution to the firewood problem in Darfur. Rather, the most effective plan will involve a range of responses:

- 1) Better coordination of fuel-related initiatives;
- 2) Expansion of fuel-saving technologies and alternative fuels to lessen the frequency and amount of firewood collection;
- 3) Physical protection of women and girls as they collect (less) firewood;
- 4) Development of alternative income generation activities so women and girls have a means of earning income other than the collection and sale of firewood;
- 5) Promotion of information campaigns, awareness-raising and improving advocacy and reporting systems around the issue of GBV.

The recommendations below are accordingly geared toward achieving these objectives.

I. BETTER COORDINATION OF FUEL-RELATED INITIATIVES

- The UN Office for the Coordination of Humanitarian Affairs (OCHA) should create or designate and support a single agency or NGO to take the lead in supporting the development of alternative fuels and in coordinating and disseminating information about all fuel-related initiatives.
- The agency responsible for coordination of fuel-related initiatives should work directly with its headquarters and with donors to ensure consistent funding for fuel-related initiatives.
- Military and security forces, UN agencies and NGOs should not purchase firewood for their own purposes from displaced women and girls.

2. EXPANSION OF FUEL-SAVING TECHNOLOGIES AND ALTERNATIVE FUELS TO LESSEN THE FREQUENCY AND AMOUNT OF FIREWOOD COLLECTION

- The agency or NGO responsible for coordinating fuel-related initiatives should expand and coordinate more fuel-efficient stove making programs throughout Darfur.
- The agency or NGO responsible for coordinating fuel-related initiatives should begin developing and testing or encouraging the development and testing of non-wood-based fuels and/or combinations of wood and non-wood fuels.
- The agency or NGO responsible for coordinating fuel-related initiatives should promote the use of fuel-efficient rations and cooking techniques to reduce total fuel consumption.

3. PHYSICAL PROTECTION OF WOMEN AND GIRLS AS THEY COLLECT (LESS) FIREWOOD

- The African Union Mission in Sudan (AMIS) should greatly expand the locations and number of firewood patrols conducted by CivPol.
- Donors should increase and sustain funding for the AMIS/UN Mission in Sudan (UNMIS) mission to put the mission in a better position to fulfill its protection mandate.
- AMIS and facilitating NGOs should ensure ongoing, frequent communication among the interested parties through firewood patrol committees and with appropriate translators.
- AMIS/UNMIS should only permit the participation of government of Sudan police in the patrols when AMIS/UNMIS can ensure participants that government of Sudan police and vehicles will be under direct supervision at all times.

4. DEVELOPMENT OF ALTERNATIVE INCOME GENERATION ACTIVITIES SO WOMEN AND GIRLS HAVE A MEANS OF EARNING INCOME OTHER THAN THE COLLECTION AND SALE OF FIREWOOD

- The agency or agencies undertaking income generation activities should conduct and coordinate separate market surveys in each of Darfur's three regions with an aim to developing practical, sustainable income generation activities and lessening the dependence of women and girls on selling firewood.
- UN agencies, NGOs and others should establish income generation activities targeted to specific markets that offer financial returns equal to or greater than those accrued from the sale of firewood.

- All agencies or NGOs designing income generation activities for displaced women in Darfur should keep in mind the potential role of displaced men, as well as consider the impact on local communities.

5. PROMOTION OF INFORMATION CAMPAIGNS, AWARENESS-RAISING AND IMPROVING ADVOCACY AND REPORTING TOOLS AROUND THE ISSUE OF GBV

- UNFPA should develop a coordinated, comprehensive data collection system for reporting and tracking incidents of gender-based violence.
- CivPol should strengthen its capacity to investigate and punish perpetrators of GBV.

PART I: DARFUR TODAY

BACKGROUND: FIREWOOD COLLECTION IN DARFUR

It is 3 o'clock in the morning on the outskirts of Abu Shouk IDP camp near El Fasher, North Darfur: time for women and girls in the camp to begin their search for firewood during Ramadan. They leave in small groups, each going in different directions, hoping to find enough wood to last at least for the day and to be back to the camp in time to cook breakfast before sunrise. They walk three or more miles (often several hours' walk) into the surrounding desert to find something combustible. If they do not find a tree, they will resort to digging by hand in the hard clay soil for pieces of root.

Women and girls collecting firewood are prime targets of government security and military forces and the Janjaweed militia, all of whom are aware of these early morning treks into the wilderness and take advantage of the absence of any kind of rule of law to commit mass rape and sexual assault. There are no reliable overall statistics on the total number of women raped while collecting firewood, but individual humanitarian agencies working on GBV efforts in Darfur have reported receiving upwards of 200 reports per month.² In a culture in which rape and sexual violence are generally not discussed, it can safely be assumed that the actual number of assaults is much greater than reported.

In response to this situation, several NGOs, both local and international, as well as UN agencies, are developing training programs on various fuel-saving technologies in order to reduce the amount of firewood women have to use for cooking. Reducing the amount of wood used should – in theory – also reduce the frequency of their trips outside the camp for firewood. Fuel-efficient mud stoves are becoming widespread throughout Darfur, receiving positive feedback from most displaced women who make and use them.

Even with the stoves, however, NGOs and UN agencies report that women and girls are still leaving the camps to collect firewood nearly as often

as before the introduction of the stoves – the key difference being that they now sell a sizeable portion of what they collect.³ For many displaced women and girls, selling firewood is one of the only means of earning any income, which is used to purchase supplementary foods, such as milk, and non-food items, often construction materials.

In addition to the promotion of fuel-efficient stoves as a means of reducing the need for trips outside of camp confines, the African Union Mission in Sudan (AMIS) has begun a limited number of firewood patrols in coordination with some INGOs that act as camp coordinators, such as the International Rescue Committee (IRC) and Norwegian Refugee Council (NRC). The goal of the patrols is simple: small convoys of CivPol and Ceasefire Committee (CFC; the AU protection force in Darfur) staff accompany and watch over women and girls while they collect wood. However, misunderstanding of mandates, lack of clarity as to the level of involvement of Sudanese police in the patrols, and mistrust of uniformed men in general – including the AU – have limited the effectiveness of the patrols since they started in 2005.

Finally, the ecology of Darfur itself bears mention. The entire region is arid to semi-arid, with increasing vegetation toward the south but no area that could be considered “forested.” Further, the Sahara desert is rapidly moving southward, taking over ever-larger portions of Darfur and contributing in no small measure to the fight over land that lies at the root of the current conflict in Darfur. While an in-depth discussion of land use lies outside the scope of this report, it is important to note that in the long run, reliance on wood as a primary fuel source for upwards of 2 million IDPs is unlikely to be sustainable.⁴ The promotion of fuel-efficient firewood-based technologies may only succeed in delaying the inevitable, which is a complete scarcity of wood throughout the region. As noted above, many women and girls in North Darfur have already given up on finding trees or branches and instead dig for roots.

Insecurity, long distances and poor or non-existent

roads make transportation throughout Darfur difficult and expensive – leaving locally available, IDP-collected firewood as the “easiest” option for relief agencies. However, developing alternative fuels and/or reliable, less expensive means of bringing fuel to the region will undoubtedly be necessary should the current crisis become protracted.

DATA COLLECTION, REPORTING AND ADVOCACY

As of the fall of 2005, NRC has created and is

disseminating a data collection system and advocacy strategy in Darfur based on the Guiding Principles on Internal Displacement. In essence, the system provides a common reporting form for use by NGOs to document incidents of GBV. The system is based on documenting violations of the various rights of IDPs guaranteed in the Guiding Principles – divided by categories such as civil and political rights, social and economic rights and provision of humanitarian assistance, among others. Though new, the system appears to be filling the profound gap in precise data on the number,

NOTE ON CHAD

The Women’s Commission did not travel to Chad to meet with Darfurian refugees as part of the site visit. Interviews with agency staff and donors who were in Chad at the same time as the Women’s Commission visit to Darfur, however, highlighted a few key differences in the situation facing the two populations:

- There is more tension between refugees and host communities in Chad than in Darfur. So far such tensions have arisen mostly over access to water, but have the potential to occur over access to firewood as well, especially as local firewood supplies continue to diminish and the cost and availability of firewood on the local markets become of increasing concern.⁵ There has also been increasing agitation against the Chadian government by Chadian rebels (which the government of Chad suspects are being supported by the government of Sudan), further contributing to tensions and instability in the region.
- According to the U.S. State Department’s Bureau of Population, Refugees and Migration (PRM), the UN High Commissioner for Refugees (UNHCR) offered to pay the local population in areas surrounding Ouré Cassoni camp near the Chad-Darfur border to collect firewood for use by refugees, but the local community refused. In Iriba, however, the local community accepted the UNHCR-NGO offer and was collecting wood as of October 2005.⁶
- UNHCR and the Agency for Technical Cooperation and Development (ACTED) have begun instituting various direct provision strategies, particularly in Ouré Cassoni camp. Such strategies have included trucking in firewood and/or allowing trucks to be used during the collection of firewood (for collection from distant sites identified by the local government). For the latter, the refugee women organized a collection strategy among themselves, with small numbers of women taking turns going with the trucks to collect wood and distributing it among the roughly 100 women in their camp block. ACTED has also provided limited supplies of kerosene (and stoves) on a per family, monthly basis.⁷
- UNHCR, in partnership with the Dutch foundation KoZon and CARE International, has been also supporting small-scale solar cooker programs in Iridimi and Ouré Cassoni camps (a few hundred cookers for camps of roughly 7,000 people).⁸ The programs are using a simple, panel cooker model called the “CooKit,” which is assembled by hand in local workshops, using cardboard and foil. (See *Beyond Firewood: Fuel Alternatives and Protection Strategies for Displaced Women and Girls*, p. 19, for more information on solar cooking and solar cooker models.)

location and type of incidents of GBV in Darfur⁹ – a key problem when attempting to determine needs, measure the impact of GBV programs and advocate with donors and government officials.

However, the system is as yet in place in only one camp (Kalma, in South Darfur) and can only be as complete as the number of NGOs that have voluntarily chosen to contribute to it. Given the variety of NGOs with responsibilities for receiving such information, full participation is unlikely unless required by donors and/or UN bodies, and without full participation the data will never be entirely complete – somewhat limiting its usefulness. Further, the system as it currently exists is unfunded and still reliant on the work and energy of a single INGO staff member for its development and promotion. Nonetheless, it represents a much broader and more holistic means of documenting and advocating around the problem of GBV than has existed previously.

Another problem for reporting and advocacy is the attitude of the government of Sudan toward the issue of GBV and toward agencies reporting on it – some INGO staff have even been arrested in Darfur after producing and publicizing a report on rape in the region.¹⁰ For this reason, NRC’s system envisions that only UN agencies such as the UN Mission in Sudan’s human rights office in Darfur (UNMIS-HR) and OCHA will take on the advocacy role, particularly with the government of Sudan. As UN bodies with formal mandates to bring protection-related concerns to the attention of the local and national authorities, UNMIS-HR and OCHA can act as a buffer for the NGOs collecting the information.

As of the time of writing, UNFPA – the lead agency for GBV in Darfur – was not involved in the design, creation or promotion of the advocacy system, with this role instead being filled by UNMIS-HR since that organization’s overall protection mandate is broader than that of UNFPA. However, because it is the lead agency for GBV in Darfur, UNFPA should ultimately be responsible for ensuring that the necessary GBV data and information are collected (and safely stored).

UNFPA’s reluctance to discuss numbers stems from concern about the confidentiality of the information, about potential retaliation from the government of Sudan, and about the possible misuse or “partial use” of the numbers.¹¹ These

concerns are not unfounded. However, there are myriad ways to collect and process such information in an entirely anonymous manner, and they should at the very least be investigated by UNFPA. Further, though it might avoid misuse, not allowing data to be used for any purpose is hindering the overall effectiveness of GBV programming.

This is more than just a data issue: without accurate estimates of the numbers of assaults, it is difficult to measure the impact of GBV interventions. If humanitarian agencies do not know how many rapes were occurring before their interventions, they will not be able to tell if that number has declined after the interventions began. Lack of data on the numbers and locations of assaults also makes it difficult to assess precisely where such interventions are most needed and/or might have the most impact – reducing efficiency.

From a longer-term perspective, the lack of accurate data on the number of assaults – including on trends in assaults before and after specific GBV interventions – make it more difficult for agencies and NGOs to effectively advocate around the issue of GBV and to fully present the results of their activities to donors.

AWARENESS RAISING

Alongside advocacy with donors and the international community more generally is a profound need for awareness raising within both the displaced communities and local and national authorities in Sudan. Awareness raising in the context of GBV in Darfur means working with internally displaced men and women to make clear to all the availability and benefits of health services for survivors of rape and the fact that rape and sexual assault are punishable crimes. Despite the prevalence of GBV throughout Darfur, some men still consider rape survivors to be somehow at fault for the crimes perpetrated against them – or at the very least believe survivors are “unclean” and no longer worthy of marriage or family life. These mindsets predate the current conflict and are unlikely to be rapidly changed. However, the sheer scale of crimes committed against women and girls – particularly in the context of a war in which men have been victimized as well – may provide an opportunity to address these mindsets in a more direct manner than was possible pre-conflict.

Awareness raising also entails addressing the issue of impunity by promoting the proper training of security forces and strengthening the capacity of local police and judicial systems to ensure that survivors who have chosen to report feel comfortable that their claims will be followed up. CivPol is mandated by the AU to train and strengthen the capacity of local authorities – including on the issue of GBV – as well as to investigate reports of sexual violence.

Despite the clear mandate, CivPol's effectiveness in these areas has yet to be proven. At the time of the Women's Commission's visit to Darfur, for example, NGOs and UNMIS-HR were alarmed by the fact that CivPol had shared names and detailed information about survivors with government of Sudan police – often the perpetrators of the crimes which had been reported. Though the sharing of this information was likely not done with malicious intent, it demonstrates that CivPol still has a long way to go in terms of dealing effectively with GBV concerns.

THE NEED FOR COORDINATION

The need for coordination of fuel-related initiatives is more acute in Darfur than in nearly any other displacement situation. This is true for a variety of reasons:

- The region is vast and suffers from poor infrastructure, meaning regular communication and information sharing cannot be assumed, but rather must be actively promoted.
- More and more relief agencies have begun focusing on fuel-related initiatives, without taking into account what other agencies are doing or have already done.
- Many of the agencies active in Darfur do not have prior experience with fuel-related initiatives and could benefit from lessons learned by others.
- Darfur presents a strong example of the potential for using the comparative advantages of a range of different actors, with different interests, for the benefit of all.

Take, for example, the promotion of fuel-efficient stoves in Darfur. At the time of writing, stoves and/or stove trainings were being supported by the Food and Agriculture Organization (FAO) as

a tool of food security, by the World Food Program (WFP) in part as a means of supporting the involvement of women in household food management, by IRC and other INGOs in part as a protection tool and in part as a skills-building exercise, by the Intermediate Technology Development Group (ITDG) for environmental protection and by UNHCR as both a tool of physical protection and as part of that agency's general program of environmental rehabilitation of refugee-affected areas.

The promotion of fuel-efficient stoves to reduce deforestation can at the same time be a tool of physical protection, and vice-versa. The same activity, for the same cost, has positive effects in both arenas. More coordination, therefore, would not increase competition, but rather reduce overall costs by focusing the expenditures of donors to each of the sectors and maximizing the impact of projects over as wide a range of sectors as possible. Even more broadly, in an era and a region where donors appear more willing to fund projects focusing on environmental protection rather than strictly on physical protection, projects resulting from the coordination of seemingly dissimilar activities might stand a better chance of securing sustainable funding than their single-focus counterparts.

Coordination problems in Darfur are further complicated by the fact that many – if not most – UN agencies and INGOs have offices and activities in different parts of the vast region. These organizations, therefore, must learn to coordinate their own activities before they can collaborate efficiently with partners. IRC's Darfur Director, for example, noted that IRC tends to work from either a "North Darfur" or "South Darfur" perspective – not an overall "Darfur perspective." While the specific regional foci may have been necessary in the early days of the crisis, the structure is now hindering efficient programming, particularly on major issues such as GBV and health care.¹² Staff turnover continues to be a major problem in Darfur, with weeks- or months-long vacancies in crucial positions all too common. Constant staff turnover contributes to the *ad hoc* nature and lack of institutional memory associated with many fuel-related initiatives, but could be somewhat alleviated by the creation of a central repository and dispenser of relevant information: a single agency or NGO responsible for

the coordination of fuel-related initiatives.

If a single agency is charged with coordinating such activities in Darfur, this agency should take the lead in supporting the development of alternative fuels and in coordinating and disseminating the findings of pilot programs. It should also assume responsibility for managing the development and expansion of fuel-efficient stove making programs and for following up with trainers and stove users to ensure maximum effectiveness and to promote best practices. Lastly, it should work directly with its headquarters and donors to ensure consistent funding for all fuel-related initiatives.

WHAT WOMEN SAY: FOCUS GROUPS

The Women's Commission organized a group discussion with approximately 20 women in the IRC-run Women's Center of Abu Shouk IDP camp, near El Fasher (North Darfur) and a slightly larger group of female trainers and participants in a fuel-efficient stove making program in Kass (South Darfur) in October 2005. The women were asked questions related to if, how and when they collect firewood, their feelings about their own security during firewood collection, whether or not they purchase or sell firewood, alternative income generation projects and their experiences with and willingness to try "improved" cooking technologies.

ABU SHOUK IDP CAMP, EL FASHER, NORTH DARFUR

According to the women interviewed, there is no firewood available near the camp any more. The majority walk three or more miles (several hours' walk) to collect the wood; a few take jobs as cleaners and domestic help in the nearby town of El Fasher in order to earn enough money to buy wood or charcoal rather than risking assault during collection. Knowing this type of employment is far from certain or sustainable, they save as much money as they can in order to buy wood even on days when they cannot find a job. Some also admitted to selling part of their rations in order to earn income.

When asked what they did with the time saved by not collecting firewood as often, most of the women who used fuel-efficient stoves answered that they did not feel they really had "extra" time. However, upon additional discussion it became

clear that most of these women in fact now work more frequently in town than before they began using the stoves. Regardless, they did not see the connection between the "extra" time not spent collecting firewood and the ability to engage in other – including income generation – activities.

The women explained that part of the reason they leave so early in the morning to collect wood is because of Ramadan (which was occurring at the time of the focus group). However, they also said that because they must travel so far to get the wood, they have to leave earlier and earlier in order to get back in time for breakfast and to avoid the harsh daytime sun. Regardless of what time of day they go, however, they feel they are always at risk, fearing "anyone in a uniform" – notably Sudanese military and the Janjaweed militia.

Before displacement, in their home villages, most women used either a three-stone fire or cooked with gas (none used a mud stove at home). Several of the women interviewed had seen an exposition on solar cooking put on by Cooperative Housing Foundation (CHF) in the camp, and therefore were familiar with the basic premise of the technology. However, the women, without exception, refused to use solar cookers themselves – the food takes too long to cook and, according to the women, tastes bad (it lacks the distinctive smoky flavor of food cooked over a fire).



Fuel-efficient stove in Abu Shouk Women's Center, El Fasher, North Darfur. The stoves are made of a clay-sand mixture, animal dung and water, and are built around three horizontal bricks (on which the pot sits). Pots are placed almost fully inside the stove. A single piece of firewood is inserted under the pot through the small "door" at the base of the stove.

Roughly one-third of the women in the discussion group had made fuel-efficient mud stoves, mostly through an IRC-CHF training program which identified potential participants through other training programs taking place at the Women's Center. The trainings train groups of 10 women at a time, and last four days.¹³ According to the women interviewed, none has received any follow-up from the trainers regarding their opinions on or use of the stove. Some of the women had, however, taught their camp neighbors to make their own stoves after the neighbors expressed interest.

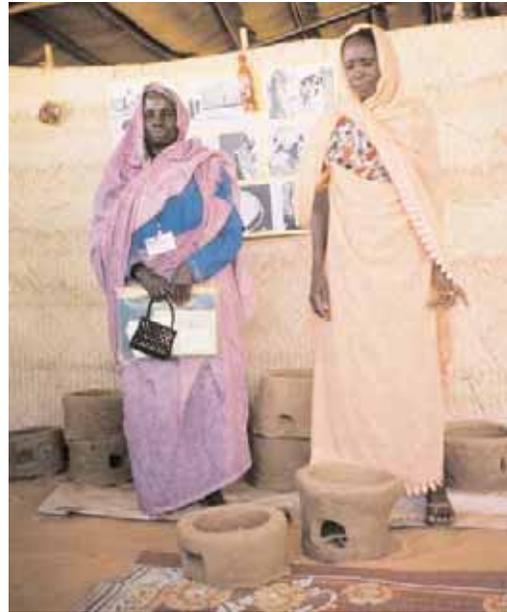
For the most part, the women were pleased with the stoves and strongly agreed that the stoves use less firewood than the traditional three-stone fire. They also appreciated that the stove was cleaner than a three-stone fire. The two key complaints, however, were that the stoves took a long time to heat up and were not big enough for large families (i.e.: they would not hold the bigger pots that large families need; occasionally the stoves would break under the weight of the larger pots). Most women said they would make a new stove if the original broke, but noted that it was difficult for them to find animal dung, one of the necessary ingredients.¹⁴

Some of the stoves were also made to burn charcoal rather than wood, with the rather simple addition of a wire grate between the pot rest and the base of the stove. Most women interviewed, however, preferred to use firewood since it could be collected (charcoal must be purchased), is more easily re-used and cooks faster than charcoal.

Cooking in the camp is done on a per-family basis. The women interviewed refused to consider any type of communal cooking, even just with their immediate neighbors, since the neighbors also have large families and it would be "too difficult."¹⁵ Cooking for a larger number of people would also take longer and, generally, is against their customs.

At the time of the group discussion, there had not yet been any firewood patrols outside Abu Shouk camp, though UNFPA had been in discussions with camp management and community leaders regarding the establishment of such patrols. Without exception, however, the women interviewed were extremely reluctant to participate in patrols – mostly due to concern that the patrollers would be men and the women, therefore, would

still be at risk (which would make sense considering the women's earlier statement that they fear "anyone in a uniform.") Even when presented with the fact that at least some of the CivPol members participating in the patrols would be women, the women interviewed were still hesitant. However, they did suggest that they would be willing to sit down and talk with CivPol and perhaps after a series of such conversations would be more willing to accept the patrols.



Women in Abu Shouk Women's Center, posing with their stoves.

EL HUMEIRA IDP CAMP, KASS, SOUTH DARFUR

As elsewhere in Darfur, firewood collection sites are becoming increasingly distant from most of the IDP settlements in Kass.¹⁶ According to interviewees, most collection sites are between three and six hours' walk (typically six or seven miles or farther) in each direction. They leave around 7 a.m.

Women in Kass were extremely positive about the stoves, particularly the fact that they use roughly one-third less fuel than the traditional three-stone fire, emit less smoke during cooking, create less ash and residue (lessening inhalation) and cause fewer fire-related accidents, particularly with children. Before introduction of the stoves, women who purchased firewood estimated they spent about 100 Sudanese dinars per day (U.S.\$0.40) on firewood; currently they spend the same amount every three days. Those who collect wood now only go out once per week; prior to the introduction of the stoves they collected wood four times

per week. The women also noted that using fuel-efficient stoves reduces both deforestation and their risk of assault outside the camps.

Unlike their counterparts in Abu Shouk, women in Kass said that the mud stoves cook much faster than three-stone fires, though the food tastes “different,” with a less smoky flavor. Women with larger families simply made a second stove to accommodate the need to cook more food.¹⁷

As mentioned above, however, relief agency representatives accustomed to working with women in Kass noted that the women participating in the group discussion may have felt that they should tell the Women’s Commission what they thought it would want to hear – that is, that they liked the stoves, used less firewood and felt safer. However, evidence from the local markets suggests that women from the camps are still selling significant amounts of firewood, whether they use fuel-efficient stoves or not.

Many of the women interviewed said that they use the time they save by not collecting firewood to work in town at the brick factory or as domestic help for local families. As in Abu Shouk, they use their income to supplement their food and non-food rations.

The women in Kass were familiar with kerosene and other gas stoves, though none of the interviewees had used them, even prior to their displacement. They had never heard of solar cooking, but expressed willingness to receive training – adding, in essence, that they were happy to have any kind of training or skills-building activity. Their actual willingness to use solar cookers, however, is questionable, considering that the speed of cooking was considered very important. Additionally, when asked what they felt was the most important aspect of cooking (beyond making food edible), the women’s responses revolved almost exclusively around the aspect of fire: including using the fire for heating or ironing, or to make extra food to sell if possible.¹⁸

As in Abu Shouk, women in Kass refused any type of communal cooking, except for ceremonies such as Eid al Fitr (for which they were preparing during the Women’s Commission visit). The key reason for such reluctance was that “cooking for more people takes longer.” Again, speed of cooking is key.

Firewood patrols around Kass had begun two weeks prior to the focus group meeting. All interviewees were aware of the existence of the patrols, but none had yet participated in one, as they said they were busy with trainings and other commitments. There was also apparent confusion as to the locations, schedules and maximum number of women allowed per patrol, despite the existence of a firewood patrol committee (see Part 2, page 13) charged with dissemination of such information throughout the settlements. In fact, there is only a minimum number – 15 – required for each patrol to begin; there is no maximum.

The women were clearly uncomfortable with patrols that included only men, and were much more responsive to patrols that included both male and female CivPol members. They had not yet been asked their opinions about the patrols, but expressed clearly that they would have suggestions for CivPol and/or the local firewood patrol committee (regarding locations, frequency, number of participants, etc.) were they to be asked. A key concern of the interviewees was what would be done about the fact that women move at different speeds – the elderly and disabled, for example, would move more slowly and could either be left behind or would slow the rest of the group down.



Fuel-efficient stoves in el Humeira camp Women’s Center, Kass, South Darfur. The stoves are made of a clay-sand mixture, sorghum ash or sawdust, and water. They are built around three vertically placed bricks, on which the pot rests. Due to placement of the bricks, the pot sits higher in the stove than in the Abu Shouk model. According to proponents of this model, the design allows better air flow to the fire. Interviewees said that cooking a typical pot of lentils requires approximately one-quarter of a stick of firewood.

PART 2: PHYSICAL PROTECTION – FIREWOOD PATROLS

HOW THE PATROLS WORK

The Women's Commission was able to observe a firewood patrol setting off in Kass, South Darfur, in October 2005. The structure of the patrol in Kass is, according to NGO staff in Darfur, similar to patrols that take place in the other regions: two large pickup trucks follow approximately 100-200 yards behind the group of women they are accompanying. The trucks contain three to five CivPol members in the cab, along with six to eight noticeably heavily armed CFC soldiers riding open air in the back.

In Kass, the patrols occur twice a week, leaving from the same locations each time: one route to the south and one route to the north. The times and locations of the patrols are publicized predominately by word of mouth, though in Kalma, the facilitators have publicized patrols through fliers and other promotional materials as well as directly through firewood patrol committee members.¹⁹ A minimum of 15 women must be present at the starting point in order to proceed. There is no maximum number of participants.

In Kass, the AU is in theory authorized to conduct patrols as far as 12 miles away from the starting points, though in practice it does not go quite that far, and allowable distances are in constant flux. According to the IRC intermediary,²⁰ the AU has not patrolled the full distance as a result of lack of clarity regarding whether or not it should "scope out" the full route in advance of the actual patrol. The patrol guidelines in use in Kass do not require the AU to verify the security of the route in advance, though they do note that the route should be "determined to be safe."²¹ The timing of the patrols must also be carefully considered with the direct input of the participants to ensure that the patrols do not occur on the same days as food distributions or other necessary events.

Patrols are supposed to leave sharply at 8 a.m. in order to avoid the hottest part of the day, though there has been some difficulty on the part of the AU and government of Sudan police (see below) in keeping to such a schedule. In North Darfur,

patrols have reportedly been delayed because fuel shortages have left the AU trucks unusable, a problem also reported by government of Sudan police.²²

Further problems have arisen around the issue of communication between CivPol and the women and girls they accompany during the patrols. For the most part, there is not a common language, and women participating in the patrol committee meetings said that they had been resorting to gesturing and other forms of non-verbal communication to try to convey their needs to CivPol during the patrols (there is a translator present at the weekly firewood patrol committee meetings). A volunteer translator found by local participants in the Kass firewood patrol committee accompanied CivPol during the patrol witnessed by the Women's Commission, but her status (paid or volunteer; and if paid, by whom?) remained unclear.²³ According to the guidelines, provision of a translator is "desirable" but not required, and should be a shared responsibility of the AU and the women participating in the patrols.²⁴ It became clear during the patrol committee meeting, however, that a translator is indeed an important issue and deserves more attention.

In Kalma camp, NGO facilitators have also reported problems of protection forces not arriving at the departure zones on time – sometimes arriving as much as one to two hours late, and at least once not showing up at all.²⁵ When protection forces are late or non-existent, the women will generally leave without them, thus negating the point of the patrols.

PARTICIPATION OF THE SUDANESE POLICE

The AU has suggested that the government of Sudan's police forces should accompany all patrols, since CivPol's overarching mandate is to train government police to eventually take over from CivPol. This suggestion has caused some tension among the women participating in the patrols, particularly those who fear renewed

violence and/or flashbacks of their previous experiences with government forces.²⁶ After a series of discussions with firewood patrol committees (see below), the AU and government officials have agreed in at least some areas to undertake the patrols jointly, with government of Sudan police accompanying the AU trucks.

In order to manage potential concerns about government of Sudan police participation, CivPol and the INGO committee facilitators have sought to assure women that any government vehicles participating in patrols will always be directly accompanied by the AU. The women interviewed by the Women's Commission were tentatively supportive of the idea and agreed to immediately report any problems to the committee. The requirement that government of Sudan and AU vehicles always remain together should, however, be put into the firewood patrol guidelines agreed upon by CivPol and the firewood patrol committee members, as has already been done for the patrols around Kalma camp in South Darfur.

PRESENCE AS PROTECTION?

There is little question that CivPol has a “presence as protection” philosophy for the firewood patrols: the CFC soldiers carry their weapons in full view and do their best to look intimidating in camouflage, berets and dark sunglasses. Regardless of CFC's presence or appearance, however, the CivPol members interviewed by the Women's Commission did not seem to have considered the possibility that they might have to respond to an actual attack during a patrol.²⁷ Rather, they grinned sheepishly and suggested that such an attack would never happen. When pressed to explain what their mandate would allow them to do in case an attack did happen, the CivPol members said they would report the incident immediately to the Sudanese police.²⁸ Only after significant additional questioning did CivPol allow that they could indeed “get out of their trucks” and attempt to stop an attack in progress – though without resorting to physical force as CivPol is unarmed. Without any power to arrest, CivPol would still have to report the incident to the Sudanese police.

The above story raises the issue of mandates – specifically, the protection mandates of CivPol and CFC. There is a profound lack of clarity

regarding the scope of these bodies' mandates among nearly all protection and relief actors in Darfur; not least of all that CivPol's mandate is to “observe and monitor” and to provide assistance and training to the local Sudanese police forces. CFC, for its part, is mandated to protect CivPol, not civilians, unless CFC directly observes civilians “under imminent threat and in the immediate vicinity, within resources and capability, it being understood that the protection of the civilian population is the responsibility of the government of Sudan.”²⁹ Even this limited civilian protection role is a recent addition to CFC's mandate, which originally granted no power to intervene on behalf of civilians at risk.³⁰

While “presence as protection” may be effective for the firewood patrols in Darfur,³¹ stronger civilian protection mandates for both CivPol and CFC – and wide dissemination of the details of these mandates – is needed.³² According to Refugees International, the U.S. government has expressed lukewarm support for the expansion of the AMIS's protection mandate, but is currently taking a “wait and see” approach during the eventual transition of the AMIS mission into a UN-led mission.³³

As of the time of writing there were very few known attacks during patrols,³⁴ giving some credence to the idea that presence as protection can work. The fact that there has been at least one attack, however, also shows that there is reason for concern. For the most part, the firewood patrols are regular – occurring on the same day(s) of the week and often following the same routes for more than one week at a time. This, combined with the distance between the AU patrollers and the women they are “protecting,” makes it possible for perpetrators to await the individual or small groups of women at the leading edge of the patrol and have sufficient time to attack them and flee before the AU arrives at the scene. Rotating the schedules and routes of the patrols could deflect this potential, but would be extremely difficult to coordinate with the patrol participants. More AU trucks and staff per patrol could also reduce the potential for such attacks, though of course would be more costly in terms of both human and financial resources.

Perhaps the easiest solution to this concern would be for the trucks to follow the women more close-

ly, stay in the middle of the group, or split up to have one truck (with both CivPol and CFC) in the front of the patrol and the second (also with both forces) in the rear. The NRC-facilitated patrols outside of Kalma camp have sought to address this issue by requiring the AU (and government of Sudan) trucks to closely follow the women until they reach the actual collection area, where women will spread out. During the actual collection, the trucks drive back and forth between the different collection sites, in order to monitor as broad an area as possible. When it is time to begin heading back to the camp, the trucks will beep their horns and blow whistles in order to signal to the women to return to a central location.³⁵

Echoing a common problem in Darfur, there has as yet been little information sharing with regard to what works and what does not work for firewood patrols, particularly with regard to AMIS forces. The CivPol members interviewed by the Women's Commission said that their sector commander communicated on an almost daily basis with the regional government authorities, but any discussion by CivPol in Kass, for example, with their counterparts in Nyala was only on an informal basis. Similarly, there is little information sharing among the various agencies facilitating firewood patrol committee meetings in different regions. INGOs such as IRC and NRC do appear, however, to be learning from past experiences and tailoring patrols and patrol committee designs to specific local needs.

FIREWOOD PATROL COMMITTEES

In Kass and Zalingei, IRC has organized and facilitates weekly meetings of a firewood patrol committee, a group of approximately 15 women representing the displaced community as well as CivPol members and the IRC facilitator.³⁶ The goal

of the committee is to provide a forum for interaction between the women participating in the patrols and the CivPol charged with accompanying them, in order to discuss concerns and work jointly to solve any problems that come up.

Equally importantly, the committee meetings can serve to build relationships and trust between the two groups. Discussions with displaced women throughout Darfur made clear that many women do not have automatic confidence in the ability of the AU to protect them, and some NGO staff have also suggested that many IDPs believe the AU in general is "out of touch" with the communities with which they work. Having a neutral place to meet and talk to each other has been a key confidence-building tool in the communities in which it has been tried.

In Kass, the committee meetings have also proven to be a useful venue for discussing the most appropriate role of the Sudanese police in the patrols. Though there is clear and understandable reluctance on part of displaced women and girls to go on patrols with Sudanese police, it is also in their own best long-term interest to have the police as well-trained and experienced as possible since the police will, eventually, take over the protection role from the AU. Only with training of national police by CivPol, on-the-ground experience and confidence building between the displaced communities and the police will programs such as the firewood patrols be in any way sustainable. It is important that all sides take advantage of the opportunity to work with the Sudanese police while still protecting women and girls. The frank discussion within the firewood patrol committee in Kass highlights the importance of the committee as a venue where women feel safe to air their concerns or any problems or complaints they might have with the patrols.

PART 3: FUEL-EFFICIENT STOVE PROGRAMS

THE FUEL-EFFICIENT MUD STOVE

Though there are many models of fuel-efficient stoves currently being used in Darfur, including stainless steel or other metal models (see page 18), by far the most common and widespread model is a basic mud stove. Ingredients and design vary from region to region and even camp to camp, but the general design and training program is as follows:

- **Ingredients:** mud, water, three bricks, animal dung/sorghum or other ash as binder. Some models add groundnut shells or rice husks to increase insulation and efficiency.
- **Construction method:** the mud, water and binder are blended together and pounded until the desired consistency is achieved. The mixture is then built around a three-brick triangle to fit the individual user's pot. The pot rests above the ground on the three bricks.
- **Drying:** the stoves are left in the sun to dry for one to three days. Some models, such as Intermediate Technology Development Group's (ITDG), are fired.
- **Size and weight:** approximately 18 inches (46 cm) in diameter; 12-18 inches (30-46 cm) high; 20-25 pounds (9-11 kgs).
- **Trainings:** trainings are usually offered through the Women's Centers in IDP camps and last between three and five days. Trainings include practical and theoretical demonstrations of the stove's fuel-saving capabilities and cooking techniques, as well as construction methods. The "down" time of waiting for the stoves to dry is often used for hygiene or first aid trainings, or basic literacy/numeracy classes but could be expanded to include more comprehensive psychosocial programming.



A fuel-efficient mud stove drying outside the Women's Center, el Humeira IDP camp, Kass (south Darfur).

Pros of the mud stove	Cons of the mud stove
Reduces firewood consumption 20-80 percent	Sometimes difficult to find ingredients (especially water, dung)
Inexpensive (<U.S.\$1 per stove)	Still requires wood
Locally available materials	Heats more slowly than three-stone fire
Reduces smoke and risk of burns	Less flexibility in pot size
Easily made, re-made as necessary	Breaks easily
Potential income generation activity	Health concerns associated with use of dung during construction
Preserves use of fire; taste of food	Difficult to transport

HOW THEY'RE MADE AND HOW THEY WORK

Fuel-efficient or “improved” stoves are the most widespread energy or firewood reduction-related initiative currently in use in Darfur. For the most part, the small, very basic stoves are made by hand out of a combination of mud or clay mixed with water and animal dung or ash as a binding material. The cooking pot rests on a triangle of three bricks around which the mud mixture is built and dried. A small “door” for the firewood is cut into the base of the stove. The stove making process is relatively easy to learn, and trainings generally take between three and five days from start to finish, including mixing and drying time.

There is no question that the stoves reduce firewood consumption. Different agencies have reported different energy savings ranging anywhere from 20 to 80 percent,³⁷ depending on the model of stove, the technique of the user and the wind and other conditions during use. Women who had made their own stoves reported during the group discussion in Kass that they used approximately one-third less firewood than with the traditional three-stone fire. Particularly when combined with fuel-efficient cooking techniques (such as pre-soaking beans and cutting food into small pieces) and fast-cooking foods, therefore, fuel-efficient stoves have a clear role to play in reducing the need for women to collect firewood and both the frequency and amount of firewood collection.



IDP Fatma Adam Tahir demonstrating the use of the stove, El Humeira camp Women's Center, Kass, South Darfur.

Fuel-efficient stoves and stove making trainings have also proven to be extremely popular with both displaced and local communities,³⁸ and coverage is high and increasing almost daily. For the most part, the stoves and trainings are relatively inexpensive (a recent study of fuel-efficient stoves in Darfur puts the direct per-stove cost at U.S.\$1.00 or less),³⁹ though some NGOs have reported difficulties in obtaining some necessary materials, particularly water and animal dung. Some participants have also complained about the use of dung both because of the smell as well as the potential for contracting disease if the stove-makers do not wash properly after handling the materials. Some agencies have addressed this concern by providing more

soap and washing facilities for participants while others have stopped using dung altogether and have replaced it with ash.

DIFFERENT AGENCIES, DIFFERENT STOVE PROGRAMS

As the above illustrates, there is a wide range of NGOs and UN agencies undertaking different stove making programs – leading to an equally wide range of stove models, building techniques and trainings. Because the technology is relatively basic, in some ways the differences in programs and/or materials are not important. However, the

near-total lack of communication or information sharing among project developers and trainers is also leading to serious inefficiencies in the overall process. As just one example, the stoves made by Cooperative Housing Foundation (CHF)-trained participants in North Darfur were relatively thick, were long-lasting and received few complaints from users. Stoves made by CHF-trained participants in South Darfur, however, were thinner and users often complained that they cracked in the rain or after only a few fires.⁴⁰ Some standardization in design – that is, choosing the best characteristics from each of the programs and weeding out the failures – would result in better-performing stoves.

THE “SAVE80” STOVE

Not all fuel-efficient stoves currently being used by Darfurian refugees or IDPs are entirely mud-based. UNHCR began piloting small stainless steel stoves called “Save80s” with refugee and host populations in Chad in early 2005. The stove parts are manufactured in Germany, transported to Chad and assembled locally. Each stove comes with a pan, a glass lid and a “Wonderbox” for cooking with retained heat (similar to the haybox used with solar cookers). It uses small pieces of firewood (including those too small to be used in other types of stoves), inserted into a small opening at the base of the stove.

The name of the stove comes from its goal of saving 80 percent of the total firewood needed for a traditional three-stone fire. In controlled tests conducted in Germany, the stove was deemed successful in terms of reducing firewood consumption as well as comfort and ease of cooking.⁴¹ In Chad, the testing phase resulted in 50 to 75 percent firewood reduction, significant reduction in smoke and embers and faster overall cooking time.⁴²

UNHCR is interested in promoting the Save80 stoves on a larger scale because they have been found so effective in terms of reducing firewood consumption, and allow users to cook comfortably with a variety of methods (sautéing, frying, etc.). According to UNHCR, the total cost per stove, including the pot and transportation from Germany to Chad, would be approximately U.S.\$57 per stove.⁴³ This figure could be reduced slightly were the stoves to be manufactured in significantly larger quantities.

As noted, however, the stove parts are manufactured in Germany and transported by sea and/or air to their final destination, since the necessary fabrication materials are not available in Chad (the only location in which the stove has been tested so far). Though the actual stove can be assembled at the field location – a potential income generation activity for the displaced and/or local population – the necessity of manufacture abroad and need for long-haul transport greatly increases the per-unit cost of the stove compared to, for example, the basic mud stove. Further, any initiative that requires long-haul transport is a risky undertaking in insecure environments (where convoys are subject to banditry or worse) or in regions rendered inaccessible during certain parts of the year because of poor weather – facts of life in both Darfur and Chad.

UNHCR and its implementing partners in Chad and Darfur might therefore better serve the needs of their beneficiaries by re-focusing attention and funds on developing a version of the Save80 stove that could be manufactured locally.

Different NGOs or UN agencies have different selection criteria for participation in the stove making programs: some programs choose participants on the basis of “vulnerability” (though without a common definition of who qualifies as vulnerable), others choose women who have shown potential to themselves become trainers, those who have participated in other training programs or those who have merely expressed interest. Some programs include members of the local community and/or men.

Some variation in programs based on specific local needs is of course necessary. Again, however, the lack of information sharing among the different agencies and NGOs about what works where and why (or, equally, what does not work) is also undoubtedly leading many programs to repeat the mistakes of others.

Similarly, a range of different activities is promoted by different agencies for trainees during “down time” (while the stoves are drying, for example). In most cases, such activities include hygiene or first aid trainings or occasionally basic literacy or numeracy courses. From its experience, however, UNICEF discovered that stove trainings provided an ideal, large-scale yet private venue in which to discuss the various needs of and support mechanisms available in the camps to women and girls who had survived sexual violence – important information that UNICEF found most women did not have. According to UNICEF, however, its attempts to promote psychosocial support programs to NGOs undertaking stove trainings were generally unsuccessful.⁴⁴

THE CONTINUED COLLECTION AND SALE OF FIREWOOD

Beyond coordination and organizational difficulties, the key concern with promotion of fuel-efficient stoves as a protection tool is that even women who use the stoves on a regular basis continue to put themselves (and/or their daughters) at risk by collecting firewood outside the camps as often or nearly as often as before the introduction of the stoves. Most IDPs interviewed by the Women’s Commission were extremely reluctant to admit that they themselves continued to collect wood, though they acknowledged that they knew of other women and girls who did so – and the local firewood markets throughout Darfur

are clear proof that large-scale collection continues. By and large, women and girls continue to collect firewood in order to sell the excess – one of the few successful income generation activities available to them. Interviewees from both the displaced community and NGO staff reported that women use the cash earned from selling firewood to purchase food and non-food items they do not get in their rations, including meat, vegetables, milk and construction materials. Until they have other means of earning income (see page 22), there is little doubt that women and girls will continue to collect and sell wood.

Some interviewees noted that full stove coverage would decrease the incentives for women to collect wood since the overall firewood market would be significantly reduced, but in many cases IDP women are selling their wood to the local community.⁴⁵ Some stove training programs (the IRC program in Kass, for example) have included small numbers of local women, but none so far are including (or have the capacity and resources to include) local women in large enough numbers to make a dent in the market for firewood within the local community. IRC has also reported that military and security forces in the region (such as AMIS, for example), have been known to purchase wood from IDP women – another market that would not be directly effected by increased stove coverage.⁴⁶

The purchase of firewood collected by displaced women and girls by security forces and/or especially by NGOs⁴⁷ should be of concern to protection actors, as such actions work against the various initiatives already underway aimed at reducing the need for women and girls to leave the camps to collect firewood. As noted above, women and girls eager to earn an income will continue to put themselves at risk by collecting firewood as long as there is a market for it – again highlighting the need for alternative income generation activities for IDPs. In these circumstances, security forces and NGOs working to protect and assist displaced women and girls are doing precisely the opposite – an action made even more shameful by the fact that such actors have the capacity and ability to either purchase alternative fuels or gather their own firewood with little risk of attack.

FINDING TREES IN THE DESERT

An additional problem with the fuel-efficient stoves is quite simple: the stoves still use wood, and Darfur is an arid to semi-arid region. Even if every family in Darfur (displaced or not) were to use a fuel-efficient stove, without any other fuel alternative or massive environmental regeneration programs, local firewood will eventually run out. Fuel-efficient stoves are undoubtedly better than traditional three-stone fires from the standpoint of both physical and environmental protection and should therefore be promoted in the short to medium term – but with the understanding that they are still only delaying the inevitable. It is crucial that development of alternative fuels be promoted alongside the stove programs.

OTHER FUELS BEING TESTED

As of the time of writing, there have been very few fuels tested in Darfur apart from firewood – the emphasis of nearly all agencies and NGOs has clearly been on reducing the amount of firewood used rather than on developing non-firewood-based fuels.

In developing new fuels and fuel technologies for Darfur, it is important to keep in mind several problems specific to the region: insecure and poorly maintained roads make transport difficult and expensive (the remoteness of Darfur adds to this difficulty); the pressing need for income on the part of the IDPs means that any fuel for which there is a market is likely to be sold and will therefore not solve firewood-related concerns; and due to the aridity of the region there is not much biomass available for briquette-based fuels.

The lack of a well-developed industrial infrastructure in Darfur is also problematic with regard to the potential for local mass production of fuels or cooking devices. However, given that many IDPs are not huge distances away from their homes, investment in such infrastructure might make more sense than in some other situations of displacement.

The above notwithstanding, there have been limited tests of a few alternative fuels in Darfur. Solar

cookers have apparently been piloted on an extremely small scale, mostly in Chad (see Text Box: Note on Chad, page 7). Solar cooking is difficult to implement in the region for a variety of reasons, the most important of which seems to be the skeptical (at best) attitude of displaced women toward the idea of cooking with anything other than fire, as noted above.

There have also been some small kerosene distribution programs piloted by OCHA in Darfur, though as of the time of writing kerosene was not widely used or accepted. According to FAO's Khartoum-based Emergency Coordination Unit (ECU), kerosene is unlikely to be used on any larger scale in Darfur at least in the short term because of insecurity: kerosene is a commodity and would be subject to theft during storage and distribution, and displaced families using kerosene could potentially be putting themselves at risk.⁴⁸ The safety of the fuel is in question in Darfur as well, as most displaced women interviewed by the Women's Commission said they were unfamiliar with the fuel and how to use or store it. During group discussions, women shared anecdotal evidence which suggested that the use of the fuel in the few pilot programs caused fires which spread rapidly from hut to hut in the crowded camps.

FAO's ECU has also tentatively discussed the possibility of supporting the manufacture and transport of mesquite charcoal from Kassala, in eastern Sudan, to Darfur. The mesquite bush is considered invasive in eastern Sudan and is a common raw material for charcoal briquettes – leading FAO to consider the possibility of ridding Kassala of its mesquite problem while simultaneously addressing cooking fuel shortages in Darfur. FAO acknowledges that cutting down the bushes, processing them into charcoal and transporting the briquettes across a country as vast as Sudan is not an easy or inexpensive undertaking, but nonetheless represents an interesting idea for addressing two problems at the same time. FAO is also weighing the pros and cons of transporting the mesquite as a raw material and supporting the charcoal manufacturing in Darfur itself – opening up a possibility for an income generation activity for local and/or displaced populations in Darfur.

THE IMPORTANCE OF FUEL-EFFICIENT RATIONS AND COOKING TECHNIQUES

A less-discussed yet important aspect of any project promoting fuel efficiency is the role of fuel-efficient rations and cooking techniques. Regardless of which fuel is used, these inexpensive, easily implemented techniques should be widely promoted in all camp settings. They include:

- pre-soaking beans, lentils or other legumes in order to shorten cooking time
- thorough milling of whole grains before cooking in order to shorten cooking time
- using only dry wood
- cutting wood and food into small pieces before burning or cooking
- sheltering cooking fires from the wind
- using tight-fitting lids where possible or putting weight on the top of loose lids in order to trap heat inside pots
- beginning the cooking of a second pot of food (where two pots are available), by placing the second pot on top of the pot being cooked. This technique can also serve to weigh down loose-fitting lids.

Lastly, WFP or other agencies distributing food to refugees and IDPs have the responsibility to ensure that displaced women are familiar with how to cook the foods they are given. If women are not familiar with the foods, they should be instructed in proper cooking techniques. Lack of familiarity with the foods being cooked wastes both cooking fuel and, often, the food itself. Many of the women interviewed in Darfur said they did not know how to cook some of the foods they were given by WFP.

PART 4: DEVELOPMENT OF INCOME GENERATION ACTIVITIES

In theory, the use of fuel-efficient technologies and cooking techniques – or any alternative cooking fuel which reduces the need for firewood – should free up some of the time of women and girls who would otherwise be collecting firewood for up to six hours a day, three to six days per week. As noted above, however, this “free time” has not yet materialized since many women and girls continue to collect wood in order to earn an income. A key goal of all humanitarian agencies interested in protecting women and girls from gender-based violence outside the camps in Darfur, therefore, should be the promotion of what UNICEF has called “less-risky income generation activities” over “more-risky income generation activities.”⁴⁹

It is clear that firewood collection and sale lies on the far end of the “risky” income generation activity scale. Less clear, however, is what types of income generation activities are both less risky and successful – meaning they allow women to earn enough income that collection and sale of firewood is no longer a preferable option.

At the time of writing a variety of income generation activity trainings and projects was underway throughout Darfur, managed by the NGOs and UN agencies working in the region. For the most part, the income generation activities in Darfur are the tried and true activities used in refugee and IDP camps throughout the world: soap making, pasta or bread making, small handicrafts projects, etc. The activities are often run through Women’s Centers within the camps and are typically coordinated with literacy courses, first aid trainings or other skills-building activities. Anecdotal evidence collected during the Women’s Commission visit to Darfur suggests that pasta making is one of the more popular activities, with participants able to sell most, if not all, of what they make. However, the mere fact that IDP-collected firewood is still for sale on a relatively large scale makes it clear that none of the income generation activities currently on offer are meeting enough of the women’s needs to dissuade them from collecting and selling wood.

Women use the collection and sale of firewood as

their main income generation activity because they get the highest returns from it. Therefore, any successful income generation activity must offer returns equal to or greater than those accrued from the sale of firewood. Determining what types of returns can be expected from various income generation activities, however, is a complicated task, and unique to each displacement situation or even to particular camps or regions of the same crisis – North Darfur is in many ways quite different from South Darfur, for example. There is a profound need for a thorough market survey in each of Darfur’s three regions to assist UN agencies, NGOs and displaced women in developing and supporting the most appropriate income generation activities for each region.

Income generation activities targeted to specific markets are the most likely to succeed in allowing women and girls to earn enough income to offset the appeal of firewood collection and sale (for more information on market surveys and other pre-requisites for income generation activity programs, see *Beyond Firewood: Fuel Alternatives and Protection Strategies for Displaced Women and Girls*, page 28.)

WFP completed its latest Emergency Food Security and Nutrition Assessment (EFSA) for all of Darfur in December 2005. The assessment included a detailed analysis of the performance of local and regional food markets, including prices, trends, market composition, expenditure, income and asset ownership.⁵⁰ While the assessment provides useful information on the location and frequency of permanent and traveling markets, transportation needs, average household expenditures on food, etc.,⁵¹ it is – as can be expected from WFP – almost entirely focused on food-based commodities. In designing potential income generation activities for displaced women and girls, however, a more thorough survey is needed – one that assesses the markets for both food and non-food items.

It is important to keep in mind the role of displaced men when designing income generation activities for displaced women in Darfur. It is common knowledge that refugee and IDP men

often feel eclipsed by the attention given to their wives and to women and girls in general in situations of displacement: many agency and NGO programs are geared toward the specific needs of the female population, with seemingly far fewer programs for men. Adding to this problem is the fact that most displaced men have lost jobs and, often, their traditional role as the sole provider for the family.

Even compared to other regions of Muslim Africa, Darfur is a very patriarchal society. Displaced Darfurian men, therefore, are especially unlikely to be thrilled by the prospect of their wives earning all or most of the household income. Any income generation activities for women should take these factors into account and, if at all possible, provide a role for or a separate income generation activity for willing men as well. No responsible humanitarian agency would want – even unwittingly – to add to domestic tensions within displaced families.

POSSIBLE INCOME GENERATION ACTIVITIES IN DARFUR

The majority of IDP women in Darfur come from a rural, agricultural background. Their skills lie primarily in farming, animal husbandry and related areas. The overall level of education in the region – particularly for women and girls – is extremely low.

That said, the women interviewed by the Women's Commission were clearly interested in learning new skills and/or taking jobs either in the camps or in surrounding communities. As noted above, some small-scale income generation activities such as pasta or bread making have met with a fair amount of success. Further, there do not (yet) seem to be laws in place restricting or preventing IDPs from engaging in paid work or from selling goods they have produced. The market for such goods, however, is likely to be extremely limited, since both the IDP and local population are impoverished.

Income generation activities with any chance of success must therefore be as practical in nature as possible. Handicrafts or other luxuries should not even be attempted unless an extra-regional market is secured beforehand – and the expense and insecurity of transport to those markets taken into account. Similarly, potentially successful income

generation activities – just like alternative fuel sources – will use locally available materials.

The following is merely a guide to the types of income generation activities that have a chance at being successful in Darfur – it is in no way a complete list. There is no question, however, that all UN agencies and NGOs have a stake in assisting displaced women in Darfur to earn incomes. Much more creative thinking on the issue is urgently needed.

Milling cooperatives: FAO is in the process of distributing approximately 240 manual mills in camps in Darfur. At the time of writing there was little indication of how the use of the mills would be managed. One possibility would be for FAO and/or partners to support the creation of women-run milling cooperatives, whereby the cooperatives would be paid by FAO, WFP or another agency to grind the flour of their fellow IDPs.⁵² Such a program would not be unique: WFP has some experience with milling cooperatives in Bangladesh,⁵³ and UNICEF was working on mill programs in Darfur even before the current conflict began.⁵⁴ IDP milling cooperatives could, however, attract the ire of local millers, who would likely lose business. Any such cooperatives should be placed strictly within the larger camps to reduce the potential for conflict.

Combined cooperatives: milling cooperatives could also be expanded to encompass a series of cooperative associations on a per-camp basis, with different groups of women responsible for different IDP needs, such as milling, growing and selling vegetables (perhaps though WFP-supported pot-gardening schemes for example), pasta and bread making, brick making, stove making and even child care. Such cooperatives could help alleviate the time constraints faced by already overburdened displaced women and girls in Darfur: instead of being responsible (on a small scale) for all such activities, they would need only focus on one or two.

Tree planting: women (and men) could be paid cash or given supplemental food or other necessities in exchange for planting trees – a relatively common scheme in refugee or IDP-affected areas.

Mesquite processing: as mentioned above, FAO has tentatively discussed the possibility of using mesquite from Kassala (eastern Sudan) as fuel in Darfur. Mesquite briquettes could be manufactured in Kassala, but could also be transported in

bush or branch form to Darfur, and then processed into briquettes by IDPs, who would be paid for their services by FAO.

Services targeted to relief workers: in West Darfur, Save the Children-US has successfully supported IDP women to open and manage restaurants, both in the camps and at the regional airport. Though few IDPs would have the money to be able to eat at such restaurants, UN, NGO and AMIS staff do – especially considering the general lack of such restaurants throughout most of Darfur. A key problem with “relief worker-dependent income generation activities,” however, is that they are unlikely to be sustainable in the long term.

Selling fuel-efficient stoves: most UN agencies and NGOs supporting fuel-efficient stove programs have at least discussed the possibility that trainees will be able to make additional stoves for sale – particularly since the stoves have proven to be so popular with users and their individual production cost is quite low. There are anecdotal reports that stove selling is already occurring on an *ad hoc* basis. With some organization, however, it would likely be possible to turn stove making into a profitable income generation activity. Further, if UNHCR expands the use of the stove (see Text Box, page 18), there may be some income impact from the production and/or assembly of the stoves.

PART 5: CONCLUSION

Reducing the need for displaced Darfurian women and girls to put themselves at risk of assault during firewood collection is an extremely complex task, with no single solution. Only a variety of interventions, undertaken simultaneously and in several different sectors, can hope to solve the problem. Fuel-efficient stove programs should be promoted by all protection actors – in a coordinated manner – in order to create conditions in which women can use less firewood. At the same time, the AU must expand its patrols to protect women and girls on the occasions that they do collect wood, and UN agencies and NGOs must work to help increase the opportunity of IDP women to earn income through something other than selling firewood.

In the meantime, it is also important to recognize that though a “perfect” stove program with full physical protection and a host of alternative income generation projects could contribute significantly to the reduction of GBV outside of IDP camps, it still would not fully solve the problem. It would not, for example, change prevailing attitudes about GBV within the community and local and national authorities. It would not create a system for prosecuting and punishing perpetrators. Nor would it be sustainable in an arid environment over the long term since it is still a wood-based solution.

Awareness-raising around the issue of prevention, support for survivors and punishment of perpetrators of sexual violence among displaced communities and local and national authorities – as well as the development of alternative fuels – must therefore go hand in hand with the expansion of fuel-efficient stove programs and firewood patrols.

KEY FINDINGS

- There are many programs underway throughout Darfur aimed at reducing the amount of firewood women use – predominately the promotion of fuel-efficient stoves. These initiatives have been started by a wide range of actors with a similarly wide range of interests

and mandates. However, there is little – if any – coordination among this wide range of actors regarding their respective projects. The lack of coordination and communication to share information or to make use of lessons learned by various agencies also results in a significant amount of reinventing the wheel.

- Similarly, there is little Darfur-wide coordination, particularly with regard to INGOs. Instead, NGOs working on gender-based violence efforts or fuel-related initiatives, for example, are thinking strictly on a North Darfur or South Darfur basis, in some cases limiting overall effectiveness.
- The extremely difficult environment in Darfur has led to nearly constant staff turnover in all agencies – UN, INGOs and local staff alike. This turnover has resulted in lack of communication both within and between agencies and a lack of institutional memory. Fuel-related initiatives have been tried and re-tried by a variety of organizations, but lessons have not been learned because projects/results of projects are not shared or even passed down within the same agency. Further, though various consultants have been engaged on the issue for at least a year in Darfur, the findings or reports have not been widely shared and there is very unequal knowledge among agencies and regions as to who has done/is doing what.
- Data collection is problematic. There is no effective centralized system for reporting information on incidents of gender-based violence or, therefore, means of determining where GBV incidences are particularly high and where targeted interventions might accordingly be most needed. There is no reliable information on trends in GBV nor any means of determining – statistically – the overall effectiveness of the interventions that have been tried. Lack of solid data inhibits advocacy efforts, particularly with donors.

- While patrolling firewood collection routes by African Union Civilian Police (AU CivPol) can have beneficial effects it is so far uneven and not occurring with regularity or predictability. (At the time of the Women’s Commission visit, there were only a handful of patrols established.) The effectiveness of the patrols is heavily dependent on the level of engagement of the individual CivPol commanders in charge of them: where commanders understand the importance of and are directly engaged in the patrols, they have proven more successful. Where commanders are distantly engaged and/or have “passed the buck” down the chain of command, the patrols become less and less effective.
- Firewood patrol committees provide displaced women with an important venue for airing their concerns regarding the patrols, as well as for building trust and relationships with CivPol.
- Fuel-efficient mud stoves are the most readily accepted “improved” technology in Darfur.
- The most important feature of any cooking technology for most displaced women interviewed by the Women’s Commission is cooking time (the faster the better). The use of fire for cooking is also crucial. For this and a variety of other reasons, women in Darfur are very reluctant to use or even consider solar cookers. Few other alternative fuels have yet been tried on even a small scale and it is therefore difficult to assess their appropriateness.
- In order to address the related problems of gender-based violence during firewood collection, scarcity of wood and environmental degradation and reliance on the sale of firewood for income, the priorities for alternative fuel development in Darfur are at least threefold: the use of locally available materials to make locally producible fuels for which there is not a strong outside market (to discourage sale of the fuel and replacement with firewood).
- No fuel-saving or improved cooking technologies introduced in Darfur will have a strong impact on the number of women collecting firewood outside the camps and the frequency with which they do so unless such interventions are accompanied by alternative income generation opportunities. Though some displaced women were reluctant to admit so during group discussions, even women who have made and consistently use fuel-efficient stoves continue to put themselves at risk by collecting firewood since there are few other means for them to earn necessary income.
- Any successful income generation activity will offer financial returns equal to or greater than those accrued from the sale of firewood. More creative thinking on the issue of potentially successful income generation activities for Darfurian women by all humanitarian agencies in the region is urgently needed.
- Income generation activities targeted to specific markets are the most likely to be successful in allowing women and girls to earn enough income to offset the appeal of collection and sale of firewood. Increasing fuel-efficient stove coverage within the local communities could also help to lower overall market price of firewood and therefore reduce the appeal of collection and sale.
- There is an observed reluctance of Darfurian women to express any type of negativity to outside interviewers. Similarly, many women are reluctant to express an opinion that is not what they believe the questioner wants to hear – particularly when the questioner comes from a relief agency. Some of the responses given during focus groups must therefore be interpreted through this lens rather than taken at face value.⁵⁵

APPENDICES

METHODOLOGY

The aim of the Women's Commission's project on refugee women and fuel needs was to investigate methods for reducing the vulnerability of displaced women and girls to GBV during the collection of firewood. The project set out to assess alternative fuel options, firewood collection techniques and other protection strategies, appropriate to the local context and in all phases of an emergency.

As a part of accomplishing these goals, the Women's Commission researcher conducted site visits in North and South Darfur, Sudan in order to get a firsthand view of how UN agencies and NGOs approach cooking fuel needs in camp situations. Darfur was chosen as a site visit location because of the sheer magnitude of GBV occurring outside the camps, which presented an opportunity to focus on the immediate protection needs of a female population under siege.

The Women's Commission organized group discussions with approximately 20 women in the IRC-run Women's Center of Abu Shouk IDP camp, near El Fasher (North Darfur) and a slightly larger group of female trainers and participants in a fuel-efficient stove making program in Kass (South Darfur) in October 2005. The women were asked questions related to if, how and when they collect firewood, their feelings about their own security during firewood collection, whether or not they purchase or sell firewood, their experiences with fuel-efficient stoves and stove trainings, alternative income generation projects, the most

important qualities of cooking fuels, their experiences with and willingness to try "improved" cooking technologies, and their opinions on communal cooking.

In addition to group discussions with displaced women, the Women's Commission conducted a series of one-on-one interviews with IDP women as well as with UN and NGO staff at field, country and headquarters level. CivPol patrollers and firewood patrol committee members were also interviewed. The interviews were conducted in a free-flowing manner, aimed at encouraging as much discussion as possible on a wide range of topics.

During one-on-one interviews, displaced women were asked their opinions on stove making trainings in which they had participated. UN and NGO staff were asked questions specific to their agencies, including fuel-efficient rations and cooking techniques in the case of WFP and FAO, as well as how both agencies view their respective protection roles. NGOs such as IRC were asked questions related to their specific protection activities in the field or to their development and testing of fuels and fuel technologies. All humanitarian actors were asked their opinions on coordination of fuel-related initiatives. CivPol patrollers were primarily asked questions related to their understanding of their protection mandates as well as communication among and between patrols in different regions of Darfur.

The Women's Commission attended a series of working group meetings in order to observe the current status of coordination efforts in Darfur and observed fuel-efficient stove making trainings.

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GBV Working Group, South Darfur. OCHA – Nyala, Darfur. October 27, 2005.

Firewood Patrol Committee, South Darfur. IRC – IRC – Kass, Darfur. October 29, 2005.

TIMELINE OF SITE VISITS (ALL 2005)

21 – 24 October: Khartoum

24 – 27 October: El Fasher, North Darfur

Abu Shouk camp

As Salaam camp

Zam Zam camp

27 – 29 October: Nyala, South Darfur⁵⁶

29 – 30 October: Kass, South Darfur

El Humeira camp

30 – 31 October: Nyala, South Darfur

Otash camp

31 October – 3 November: Khartoum

ENDNOTES

1 For a more comprehensive set of recommendations, see the Women's Commission report *Beyond Firewood: Fuel Alternatives and Protection Strategies for Displaced Women and Girls*, at www.womenscommission.org/pdf/fuel.pdf.

2 See, for example, Médecins sans Frontières (MSF), "The Crushing Burden of Rape: Sexual Violence in Darfur," (briefing paper by MSF-Holland), March 8, 2005. The report states that MSF treated 500 rape cases between October 2004 and the first half of February 2005 (143 cases per month) in South and West Darfur alone, which in February 2005 accounted for 72 percent of the total IDP population [Humanitarian Information Centre-Sudan, Darfur Humanitarian Profile, February 2005, Table A]. Extrapolating the data to cover all three regions, MSF itself treated the equivalent of 200 cases per month. This convoluted calculation is necessitated by the lack of systematic data collection or reporting by UN agencies or NGOs working in Darfur (see "Data Collection, Reporting and Advocacy," later in this section).

3 For example, IRC country office and IRC Darfur field staff, interviews with author, Khartoum, El Fasher, Nyala and Kass, October 2005; group meeting with author and representatives of ARC, IRC and OFDA, Nyala, October 2005; UNFPA GBV core group team leader, interview with author, Khartoum, November 2005; FAO ECU staff, interview with author, Khartoum, November 2005; UNICEF former child protection and GBV officer, telephone interview with author, December 2005.

4 Though many now-internally displaced women used firewood as their primary source of cooking fuel even before displacement, in a group discussion IDP women in Abu Shouk camp suggested that a sizeable proportion, particularly those in more urban areas, used gas. Further, pre-conflict settlements were much more scattered than the current setup, spreading wood collection over a much wider area.

5 Ben Hemingway, International Medical Corps,

email to author, February 1, 2006.

6 Neil Ahlsten, Chad-Darfur Program Officer, U.S. Department of State, PRM, interview with author, Washington, DC, December 14, 2005.

7 The distribution of kerosene in Chad is of concern for two key reasons: first of all, UNHCR itself has determined the practice to be unsustainable in other displacement situations (such as the Bhutanese camps in Nepal) given the rapidly rising costs of the fuel, a situation further complicated in Chad by the extremely poor infrastructure that makes transportation difficult and expensive. Secondly, PRM has reported that refugees are given little to no training on how to use the fuel or the stoves, causing serious safety concerns since most Darfurians have never used kerosene before. [U.S. Department of State, PRM, U.S. Refugee Program News, vol. 3, issue 1 (February 2005)].

8 Pascale Dennery, Technical Assistance Director, Solar Cookers International (SCI), email to author, January 6, 2006.

9 The system includes anonymous information on the date, time and general location of the incident, the type of incident (for example, rape, attempted rape, assault, theft, etc.), what the survivor(s) was/were doing when the incident occurred (for example, collecting firewood, using a well, using a latrine, tending a garden, etc.), the chain of reporting, whether or not the incident was investigated – and if so by whom and any results. In order to ensure confidentiality of survivors, the system does not include names or other identifying characteristics of survivors.

10 The report, *The Crushing Burden of Rape: Sexual Violence in Darfur*, was published by MSF-Holland in March 2005. It is accessible at <http://www.doctorswithoutborders.org/publications/reports/2005/sudan03.pdf>. For more on the arrest, see BBC News, "Sudan charges man over report," May 30, 2005, available at <http://news.bbc.co.uk/2/hi/africa/4593443.stm>.

11 In an email to the author, UNFPA's GBV Core Group team leader, Roselidah Ondeko, explained:

“As far as possible it would be good not to quote numbers given the various reasons, i.e. people may use numbers in different ways, i.e. for or against the program or they may give a partial or false impression of the situation,” January 4, 2006.

12 Amana Michael Ebye, IRC Darfur Director, interview with author, Khartoum, October 22, 2005.

13 According to IRC’s Darfur Director, the trainings used to last for a total of three months, and included trainings in other subjects such as literacy, health care, etc. Only after completion of the entire course would women be given the stoves they had made. It was eventually determined that it was not in the participants’ best interest to wait so long to receive the stove, and the training and receipt of the stove are now separated from other longer-term training programs. Most other stove training programs investigated by the Women’s Commission were between one and five days long. (Ebye, interview.)

14 Not all fuel-efficient mud stoves in use in Darfur use dung as a binding agent; some use ash or sawdust.

15 Though the women did not express so directly, the interviewer had the impression that “too difficult” meant they did not want to have to determine which family’s rations to use in what proportions.

16 In Kass, unlike many other areas of Darfur, the IDP camps and settlements are constructed in the middle of the town, and are often mixed in with permanent structures.

17 Using a second stove obviously necessitates having a second cook-pot, not a guarantee in most IDP or refugee camps.

18 It was brought up in separate interviews with IRC women’s health staff in Nyala and Kass that women also use their cooking fires as a traditional cleansing method, which involves standing over the fire wrapped in a blanket and using the smoke as a type of deodorant.

19 According to IRC, the smaller number of female IDP representatives on the firewood patrol committee in Kalma has made it difficult to effectively publicize the patrols within the camp [Valerie LaForce, IRC Women’s Health Coordinator – South Darfur, email to author,

December 28, 2005].

20 Lisa Cohan, IRC Women’s Health Manager – Kass, interview with author, Kass, October 29, 2005.

21 IRC-Kass in cooperation with the Kass Firewood Patrol Committee, *Kass Firewood Patrol Draft Guidelines (version 2)*, October 26, 2005. Internal document obtained by author.

22 Hassan Noor, IRC Protection Coordinator – North Darfur, interview with author, El Fasher, October 24, 2005.

23 According to draft guidelines for the Kalma patrols, the AU is responsible for providing an interpreter during the patrols.

24 In a follow-up interview with the Women’s Commission, IRC’s former Women’s Health Manager in Kass made clear that the onus for finding a translator should be more on the AU than on the women themselves. Lisa Cohan, interview with author, Washington, DC, January 18, 2006.

25 LaForce, email.

26 Such fears are not unsubstantiated: just before the patrol observed by the Women’s Commission set off, a government of Sudan police vehicle, its passengers clearly armed, appeared from outside the camp and drove at high speed through the middle of the group of women waiting to leave with the AU patrol. In North Darfur, the government has also set up its camp just outside of the regional headquarters of CivPol, meaning that any women or girls wishing to report GBV or other incidents to CivPol must pass directly in front of government offices to do so.

27 An attack during a patrol, though unlikely, could be envisioned since the women travel quite far in front of the CivPol trucks. The larger the group of women, the more heavily forested the route and the farther apart the women walk during the patrol the more likely is such an attack. Younger girls could also be considered more susceptible to such attacks as they might be more likely to succumb to intimidation tactics.

28 Sudanese police, it must be noted, are often identified by survivors as the perpetrators of violence.

29 Sally Chin and Jonathan Morgenstein, *No*

Power to Protect: The African Union Mission in Sudan, Refugees International report, November 2005, p. 5.

30 *African Union Peace Monitors Creating Pockets of Stability in Darfur*, Refugees International Bulletin, February 25, 2005. The mandate was enhanced to its current state in October 2004.

31 As of the time of writing there are no reliable statistics available to measure the protection impact of the firewood patrols; anecdotal evidence collected by staff of humanitarian agencies suggests, however, that incidents of GBV during firewood collection are indeed down – though only during the times of the patrols.

32 According to IRC, CivPol does not have nor does it want standard operating procedures (SOPs) for GBV. The human rights office of the UN Mission in Sudan (UNMIS-HR) has reportedly offered to draft SOPs for CivPol, but CivPol has refused, saying SOPs for this issue are “unnecessary.” [Aisling Swaine, IRC Women’s Health Coordinator – North Darfur, interview with author, El Fasher, October 26, 2005.]

33 Chin and Morgenstein, p. 5.

34 Kristen Geary, former UNICEF Child Protection and GBV Officer, telephone interview with author, December 13, 2005. The attack was reported to the Khartoum-based GBV Working Group by Médecins sans Frontières but according to UNICEF, no follow-up action was taken.

35 NRC, “NRC Note on new schedule for AU-GoS Police firewood patrols, Kalma IDP camp, beginning 17 December 2005.” Internal document obtained by author.

36 In cooperation with IRC and Médecins du Monde, NRC facilitates a slightly different version of the firewood patrol committee in Kalma camp in South Darfur. The Kalma committee consists of two IDP firewood patrol representatives charged with liaising with NRC and CivPol on a daily basis, as well as two CivPol representatives, one representative of the government of Sudan police, two sheiks, two members of the camp Women’s Committee and as many IDPs as wish to attend. The weekly firewood patrol committee meetings are facilitated by one NRC and one IRC staff member.

37 See, for example: Daniel Wolf, International Lifeline Fund and Matthew Langol, Aprovecho Research Center-Uganda, *Darfur Humanitarian Stove Project Assessment*, October 24, 2005; ITDG Darfur Program, *Training of Trainers on the manufacturing and use of improved wood stoves and fuel saving skills*, October-January 2005, document obtained from ITDG by author; ASB, “The Save80 Project,” (undated), document obtained from UNHCR by author.

38 It must be noted that the Zaghawa in particular have a cultural bias against brick and pot making or anything requiring working with clay or dirt, since such activities are traditionally done by lower castes within the society. Some NGOs have reported difficulties in convincing Zaghawa women (and/or their husbands to allow them) to participate in stove making trainings. For the most part, however, such concerns were alleviated by strictly associating the stoves with better cooking practices rather than as a pot making activity.

39 Wolf and Langol, p. 16.

40 LaForce, interview with author, Nyala, October 27, 2005.

41 Imma Seifert, *Short expert’s report on the use of a stainless steel pan with the highly efficient stove Save80*, October 10, 2005. Document obtained from UNHCR by author.

42 Arbeiter-Samariter-Bund Deutschland (ASB), “The Save-80 Project” (undated). Document obtained from UNHCR by author.

43 Valentine Ndibalema, UNHCR Senior Technical Advisor, Environment, email to author, December 20, 2005.

44 Geary, telephone interview.

45 There was also some suggestion that NGOs have purchased firewood from IDP women for therapeutic feeding centers, though the Women’s Commission was unable to verify how often or on what scale such purchases may have been taking place.

46 Noor, interview.

47 Women from the local community also purchase wood from IDP women, though these free market activities cannot be controlled by the humanitarian community in the same manner as can actions by security forces or, especially, NGOs.

48 Marc Bellemans, Emergency Coordinator and Toni Ettels, Deputy Emergency Coordinator, FAO-ECU, interview with author, Khartoum, November 2, 2005.

49 Geary, telephone interview.

50 WFP, European Food Safety Authority Provisional Report, Chapter six (Food Security), December 2005.

51 Interestingly, the EFSA found that the average Darfurian household expenditure on food was between 62 and 68 percent (p. 63). Further, drugs and milling costs accounted for the greatest proportion of non-food expenditure (p. 64), and an average of 15 percent of all households – both displaced and non-displaced – relied on the sale of firewood as their primary source of income (p. 65).

52 At the behest of IDP women, WFP currently distributes wholegrain flour in Darfur, necessitating milling.

53 Brian Gray, Program Advisor, Gender, WFP, interview with author, Rome, November 7, 2005.

54 Geary, interview.

55 For example, without exception, women participating in the group discussion in Kass stated emphatically that they no longer collected firewood and instead purchased whatever they needed at the markets – from women in the local community. During IRC group discussions with women in the local community, however, the local women said they purchased their firewood almost exclusively from IDP women.

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