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Title Of Project: Darfur Humanitarian Stove Project Assessment

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Executive Summary

The present crisis in Darfur is, in no small measure, the product of decades of deforestation, which has denuded the landscape of some 959,000 hectares of forest a year—quite literally altering the face of Sudan. Deforestation has exacerbated the competition for scarce natural resources and further impoverished a population that barely subsists in a harsh environment. By reducing the need for wood and emission of smoke, programs that train internally displaced persons (“IDPs”) on how to make fuel efficient stoves can ease environmental stress, improve health and enable women to reduce their exposure to rape and other forms of gender based violence (“GBV”)—a risk they face whenever they leave the relative safety of the camps to which they have fled.

Owing to the intense population pressure that has been created by such flight, the environment in the areas around those camps has become increasingly depleted, forcing women to venture further and further out in search of wood. For instance, at the Kalma IDP camp, women must walk about fifteen kilometers to find and carry back wood—a chore that can take about six hours or more to complete and that must be repeated about five or six times per week. The severity and frequency of the violence that women face at the hands of soldiers, the Arab militia known as the Janjaweed and other armed bandits when they go out on such wood foraging missions has been well documented.

One way in which the international community has responded to this urgent protection issue is through the promotion of fuel efficient stove (“FES”) programs. These stoves, which are generally made from mud and donkey dung, require much less fuel than do the traditional “three-stone” stoves, which, in turn, means that much less time is required to gather wood. Recognizing the important contribution that FES programs can have in reducing the exposure of women to GBV, the UN issued an inter-agency report earlier this year in which it called for their promotion “on a massive scale.” Heeding this call, a number of NGOs have ramped up their FES programs and, as a result, approximately 50,000 women in Darfur have been trained on how to make fuel efficient stoves and are using those stoves for all of their cooking needs.

The benefits of these programs to the conflict affected peoples of Darfur are manifest and can hardly be overstated. Apart from reducing exposure to GBV, these benefits include.

- retarding the desertification process that is the principal underlying cause of the crisis;
- improving the quality of life for Darfurian women and their families by reducing expenditures for fuel and freeing up time for income generation;
- dramatically reducing the amount of smoke that is emitted during the cooking process and, thereby, the incidence of acute respiratory infections and other smoke-related diseases, which is one of the leading causes of morbidity and mortality throughout Darfur;
- reducing the risk of injury to children, who can burn themselves when they fall into the open fire and, likewise, decreasing the risk of fire to nearby structures—a particularly serious concern in congested camp environments.

Having experienced these benefits for themselves, Darfurian women have proven highly receptive to FES training and are extolling the virtues of their new stoves. Apart from saving wood, improving health and decreasing the risk of fire and burns, these women report that the new stoves save cooking time, improve the taste of their food and, in reducing the amount of smoke, make the “kitchen” a much cleaner and more comfortable environment in which to cook. In short, there are no insurmountable cultural barriers that would prevent FES projects from expanding to cover the entire population of Darfur.

A number of NGOs have, however, been reluctant to get involved as they are struggling to meet other priorities. Contributing to such reluctance is a tendency among some of them to view FES programs as essentially a GBV protection measure and a perception that those programs have had little or no impact in that area because women who were previously collecting wood for personal use are now doing so for income generation. That perception is inconsistent with what most relief officials are reporting from the field and with statements from scores of IDPs who confirm that they are spending up to fifty percent less time on wood collection since completing FES training. At any rate, given the enormous benefits that those programs can bring in relation to their cost, the international community should promote them not solely—or even

principally—as a GBV protection measure, but as a vital piece of a holistic response to the urgent environmental and humanitarian issues confronting the conflict affected people of Darfur.

The expansion and effectiveness of FES programs has also been hampered by a lack of overall coordination and the absence of a strategic plan for enhancing fuel efficiency. As a result, stove programs have been implemented on an *ad hoc* and episodic basis by interested NGOs without sufficient attention being given to such issues as regional prioritization and the amount of coverage needed within a given region to maximize the benefits that FES programs have to offer.

FES programs have also been hampered by a lack of technical expertise. While the stoves presently being promoted have reduced the amount of wood needed for cooking by thirty to fifty percent, that rate can be brought up to as high as seventy percent by making certain improvements to the design of the stove and insulating it using locally available organic materials. Likewise, the stoves, which tend to fall apart after several months use, can be made durable enough to last for two to three years.

The concentration of what hitherto had been a highly dispersed population into densely crowded camps has substantially facilitated the ability to reach that population with a large-scale FES intervention. At the same time, the women who are the intended beneficiaries of that intervention will never be more motivated to change their habits. Thus, the tragic humanitarian crisis that has displaced some two million Darfur villagers has ironically given the international community a unique opportunity to assist them in a way that can have a positive, permanent and profound effect on their livelihoods and the environment in which they live.

That opportunity should not be missed. Consistent with the U.N.'s recommendation, a campaign should be launched to promote FES training “on a massive scale.” Existing FES programs should be expanded and new programs should be launched, taking full advantage of existing technologies that will enable IDPs to produce stoves that are far more efficient and durable than those now being made. Finally, a lead agency should be imbued with the specific mandate to coordinate the response to environmental degradation in Darfur and to develop a strategic plan for addressing environmental issues through FES, conservation and reforestation programs.

1.0. Mission Sponsors and Participants: The mission took place between August 29 and September 16, 2005 and was sponsored by the International Lifeline Fund (“Lifeline”) and the Aprovecho Research Center (“Aprovecho”)—the world leading developer of fuel efficient stove (“FES”) technologies. Logistical support for the mission was provided by Refugees International. Participants were Daniel Wolf, the Founder and Executive Director of Lifeline, Mathew Langol, program director for Aprovecho’s FES project in Northern Uganda, and Deborah Terry, Vice President of Lifeline and the mission photographer.

2.1. Principle Objective: The principle objective of the mission was to explore methods for improving and expanding existing FES projects with an ultimate objective of providing as complete coverage as possible throughout Darfur with the most efficient and sustainable fuel technologies available.



Photo by Deborah Terry: Fuel efficient stoves drying at Zam Zam IDP Camp, North Darfur

2.2. Specific Objectives:

- Assessment of existing FES and fuel alternative projects in all three states of Darfur and identification of technical gaps relating to those projects.
- Assessment of availability of local resources that might be used to improve FES design and performance.

- Laying of groundwork for an FES project in Darfur by identifying shortfalls in the existing FES program, sites at which expert technical assistance will provide the greatest benefits, and potential partners to facilitate the provision of such assistance.
- Commence development of a strategic plan to improve and expand existing FES projects so as to provide as comprehensive coverage as possible with the most efficient and sustainable fuel technologies available.

3.0. Mission Summary: The mission arrived in Khartoum on August 31 and remained until September 6. During that period, team members met with FAO, the agency that has taken the lead role in connection with FES programs in Darfur, various other UN agencies that are connected with FES programs, including UNFPA, UNICEF, OCHA and UNHCR, and several of the NGOs that have been active in the implementation of FES projects, including OXFAM, Relief International and ITDG.

On September 6, the team flew to Nyala, where, they met with government officials from HAC as well as representatives from FAO, UNICEF, OCHA and UNHCR, all of whom provided vital information and/or assistance. While in South Darfur, the mission was able to visit with field officers from almost all of the NGOs that are presently implementing or planning to implement FES projects in that region, including the Sudanese Popular Committee for Relief and Rehabilitation (“SPCR”), ZOA, OXFAM, IRC and Samaritan’s Purse. The team was also able to visit Internally Displaced Persons (“IDPs”) in three camps located in and around Nyala—namely Kalma, Otash and Al Sareif—where they had an opportunity to speak with IDP leaders, trainers, a number of those IDPs who had benefited from FES training and were now using the stoves they had made, and others who were still cooking with traditional stoves. Owing to time and logistical constraints, the team was unable to visit any of the more remote camps and IDP concentrations in South Darfur, where stove projects are being implemented.

On September 10, the mission split up with Mr. Langol, traveling to Zalingei, where he met with officials from Mercy Corps, conducted a site assessment and spoke with IDPs involved in FES training programs.

After reuniting in Nyala on September 12, the mission traveled to El Fasher, where they again met with officials from HAC and various UN agencies, including UNICEF, OCHA and UNMIS to obtain an overall view of the situation regarding fuel efficient stoves in North Darfur and related environmental and protection issues. The team also had discussions with the three NGOs with significant FES programs in that state—Relief International, CHF, ITDG—and was able to have focus group discussions with IDP beneficiaries of those programs in both the Abu Shouk and Zam Zam camps. The team was unable to visit the Relief International project in Kabkabiya owing to the unavailability of helicopter flights.

At each of the sites visited, the team was able to examine the quality of mud and bricks for stove building. In addition, the team was able to assess the availability of other organic materials that could be used for insulation and otherwise to improve upon the stoves currently in use.

4.0. Summary Of Existing FES Projects in Darfur:

4.1. Overview: The present crisis in Darfur is, in large part, the culmination of decades of deforestation, which has denuded the landscape of some 959,000 hectares (or about 3,700 square miles) of forest a year—quite literally altering the face of Sudan. As a result, competition for scarce natural resources is becoming increasingly intense and a population that has always lived on the brink of subsistence is becoming ever more destitute.

A principal cause of Darfur’s desertification is the dependence of a growing populace on wood and charcoal to fill their cooking needs. Indeed, approximately 60 percent of all households in Darfur depend on charcoal and wood in food preparation, with each such household consuming an average of twelve medium sized trees each year. The deforestation problem is so severe in North Darfur that IDPs have had to resort to digging under the earth for roots and the Sudanese Government has issued a directive prohibiting all wood collection, except by IDPs for personal consumption.

Owing to intense population pressure, the environment in the areas around camps and other IDP concentrations has become increasingly depleted, forcing IDPs to venture further and further out

in search of wood. For instance, at the Kalma IDP camp, a sprawling camp of about 160,000 IDPs located outside Nyala, women must walk about fifteen kilometers to find and carry back wood—a chore that can take about six hours or more to complete. Moreover, in order to cover the fuel needs of an average household, this task must be repeated about five or six times per week. As there is little or no security in the areas outside the camps and towns, men dare not wander out for fear of being killed. Thus, the burden of collecting wood has fallen upon women and their older children, who face the lesser evil of being raped or beaten at the hands of armed bandits and soldiers. The international community and the Sudanese Government have responded by providing African Union (“AU”) and local police escorts to women at a number of IDP sites. However, those forces do not have the capacity to be everywhere at once and, as a result, women remain at extremely high risk of rape and other forms of violence whenever they go out on wood foraging missions.



Photo by Deborah Terry: Women from Kalma IDP IDP Camp returning from wood foraging mission.

Unwilling to expose themselves and their children to that risk, a growing number of IDP women are ceasing their collection efforts and, instead, selling a portion of their family’s food ration in exchange for wood. For the average household, the price of a week’s supply of wood using the traditional three-stone stove is approximately 700 to 1,000 dinars or more, depending on location and availability. Given that the basic food ration is the minimum necessary to maintain health, the price of protection for women who have opted to purchase wood in the market is hunger and malnutrition.

Recognizing the important contribution that FES programs can have in reducing the exposure of women to gender based violence (“GBV”), the UN issued an inter-agency report earlier this year in which it called for their promotion “on a massive scale.” Heeding this call, a number of NGOs operating in Darfur have ramped up their FES programs and, as a result, approximately 50,000 women in Darfur have been trained on how to make fuel-efficient stoves and are using those stoves for all of their cooking needs.

Existing FES projects in Darfur involve a mud stove based on variations of an ITDG model. In almost all locations, training is conducted through women’s groups based in the host community and/or IDP camps using a TOT (training of trainers) system. Each trainer can train upwards of twenty women per week. This training may include related types of adult education—such as GBV, conservation and hygienic—and generally ranges from about three to six days in length. Trainers are paid a modest wage for their services, the amount of which varies from program to program. Trainees are generally provided with food and soap during the period of training. However, in some FES programs, including the CHF/ITDG program at the Abu Shouk IDP Camp in El Fasher, trainers have been provided with cash incentives for their participation.

4.2. South Darfur: The principal FES projects in South Darfur have been the SPCR project at the Kalma IDP Camp, the Oxfam project in Kass town, which is being taken over by IRC, and the ZOA project in Gereida town, its IDP camp and its surrounding villages. In addition, Samaritan’s Purse is considering launching a project in Yassin.

In Kalma, SPCR has provided FES training for approximately 8,000 women, thereby, reaching about 25 percent or more of the camp population. High quality clay is available from a distance of one to two kilometers from the camp. Training has also been made available to women from nearby villages. Training began approximately one year ago and some of the stoves were observed to be collapsing. Though much work remains to be done, SPCR has been forced to suspend its FES project in Kalma due to lack of funds.

In Gereida, ZOA implemented an FES project from April 15 through June 30, 2005 that provided training for 6,500 women and produced an equal number of stoves in the space of less than three months. As in other locations, training was based upon a TOT system and coordinated through a local women's organization.

The mission visited four other locations—the Otash and Al Sereif camps in Nyala and the villages of Sonia Deraiba and Abu Ajura—where there were no training programs in place and women were cooking exclusively or almost exclusively on an open fire using the three stone method. In the Otash camp, however, the team observed that several women did have mud stoves, despite the absence of any organized training program, and one woman was found who was selling the stoves she had made at a price of 300 dinars per stove.



Photo by Deborah Terry: Examining clay and fired brick in Nyala, South Darfur

Owing to time and logistical constraints, the mission was unable to visit Kass, where Oxfam has provided stove training to approximately 8,000 women and where IRC is hoping to reach about 6,000 more.

4.3. West Darfur: Mercy Corps is operating FES projects in Zalingei and Mukjar, where it has already provided training to hundreds of female IDPs and villagers under a TOT model and where it plans to reach more than 2,000 in the months ahead. The quality of mud for stove building in Zalingei is quite good—as it is in most of West Darfur owing to greater rainfall than

in North or South Darfur. It should also be noted that Concern is implementing an FES project in the Mornei IDP Camp, which the mission was unable to assess owing to time constraints.

4.4. North Darfur: There are presently three significant FES projects in North Darfur—a CHF/ITDG project in Abu Shouk, another CHF project in Zam Zam and a joint Relief International/Oxfam project in Kebkabiyah. ITDG has provided training and technical assistance in connection with each of these projects.

In Abu Shouk, the training has reached approximately 6,000 women—covering about half the camp population. The mud around Abu Shouk is inferior to that seen in other camps, but still of sufficient quality to build a durable and functioning stove. About twenty kilometers to the west at the Zam Zam IDP Camp, CHF has recently commenced a program that has provided training for approximately 250 women and that is intended to provide coverage for the entire camp population of 20,000. Clay is available directly outside the camp and was observed to be of higher quality than that available at Abu Shouk.

The Relief International/Oxfam project in Kebkabiya has thus far provided training to 6,000 women—approximately one third of the number in the area who could benefit from such training. The clay in the area is reportedly of very high quality. Relief International intends to expand its program in the months ahead to reach an additional 6,000 women in Saraf Omra and Tawila, including approximately 2,000 from the host community.

5.0 Findings:

5.1. FES Performance: The stoves that are presently being promoted across Darfur are made out of a combination of water, mud and either dung or grass and are based on a local variation of the ITDG model. This basic stove has reportedly resulted in a reduction in wood and charcoal consumption of approximately thirty to fifty percent.

5.2. Suitability Of Indigenous Materials: While varying to some degree from location to location, the quality of mud is generally quite good throughout the region and clay deposits

suitable for stove building appear to exist in the immediate vicinity of all or virtually all significant IDP concentrations in Darfur. Local organic material most suitable for insulation appears to be groundnut shells, which are plentiful in close proximity to IDP concentrations in Nyala, Zalingei and Kebkabiya.

5.3. Receptivity Of The Subject Population: The receptivity of the local population to fuel efficient stoves is extremely high and there are no insurmountable cultural barriers that would prevent FES projects from expanding to cover the entire population of Darfur. Relief workers we spoke with uniformly reported the IDP population's enthusiasm for these projects—an enthusiasm that was confirmed in our discussions with every IDP trainer and trainee we met. Among the benefits of fuel efficient stoves most commonly cited by IDPs are the following:

- Fuel efficient stoves require far less wood and/or charcoal than traditional stoves, which benefits IDP women and their families by:
 - reducing the amount of time required for wood collection, thereby, reducing the risk of sexual violence and assault;
 - increasing the amount of time available for other activities such as washing, adult education and income generation;
 - reducing the amount of money they must spend to purchase wood and charcoal;
- Fuel efficient stoves save additional time by cutting cooking time in half;
- The food cooked in a fuel efficient stove tastes better than food cooked using the traditional method;
- Fuel efficient stoves emit far less smoke than the traditional stove, thereby, removing a significant health hazard to women and their families;
- Fuel efficient stoves reduce the risk to young children, who can suffer severe burns when they fall into the open fire;
- Fuel efficient stoves reduce the risk of fire to homes;
- Fuel efficient stoves can be moved from place to place, enabling IDP women to cook inside their huts during the rain;
- Owing to reduction of heat and smoke, fuel efficient stoves make cooking easier, cleaner and more comfortable.

Apart from these benefits, FES projects have had a positive psychological impact on the women who have participated in them by empowering them to contribute to their own livelihood and by providing a positive atmosphere in which to meet and interact with other women.



Photo by Deborah Terry: Trainees with their newly constructed stoves at Zam Zam IDP Camp, North Darfur

Having experienced for themselves the benefits that fuel efficient stoves have to offer, all of the women with whom the mission spoke expressed interest in receiving additional training that would help them make a more efficient, more durable and lighter stove. Women who have not yet received training are affirmatively seeking it out and have even asked NGOs to establish training programs in some sites where they do not currently exist.

All of the IDPs the mission spoke with indicated that they would not return to the traditional cooking method and expressed their intention to build new stoves for themselves once they have returned to their villages. Indeed, many stated that it was their hope that they would be able to make stoves for sale upon their return and some have begun doing so already for approximately 300 to 600 dinars per stove. Male IDPs have been supportive of FES programs, but have not participated in those programs themselves as they regard anything relating to the kitchen as women's work.

5.4. Problems Associated With Fuel Efficient Stoves: While both relief workers and IDPs alike extol the virtues of fuel efficient stoves, a number of issues were raised during the course of

the mission that require attention. First, both IDPs and relief officials noted that the mud stoves tend to break down after several months use. A second and more urgent concern is that by using donkey dung in the making of those stoves, IDPs may be exposing themselves to an increased risk of hepatitis. To address this issue, at least one NGO has shifted from dung to grass. While grass works, other locally available materials such as groundnut or sorghum husk would produce a superior stove.

The only other significant concern that was voiced during the course of the mission was that, in some cases, FES programs seemed to be having little or no discernible effect on reducing the rate of GBV—apparently because women who were previously collecting wood for personal consumption were now doing so for income generation purposes. In most cases, however, relief officials have reported a substantial reduction in the amount of time devoted to wood collection as a result of fuel efficient stove use. These reports are consistent with information provided to the mission from the IDPs themselves, who consistently stated that they had spent less time with wood collection since completing FES training.

5.5. Constraints On Expansion And Improvement Of FES Programs. There is no question that the FES projects in Darfur have been highly successful and that very substantial strides have been made in the space of a relatively brief time span. There is, however, still a long way to go if those projects are to achieve their full potential.

In general, funding for FES programs is available, but a number of NGOs have been reluctant to get involved as they are struggling to meet other needs and priorities. Contributing to such reluctance is the tendency among some NGOs to view FES programs as essentially a GBV protection measure and their perception that those programs have failed to demonstrate the desired GBV effect. Given that their principal mission is to make life-saving interventions rather than to conserve natural resources and promote sustainable development, this “GBV-centric” view of FES programs is perfectly understandable. However, given the enormous benefits that those programs can bring in relation to their cost, common sense dictates that the international community promote them not solely—or even principally—as a GBV protection measure, but as

a vital piece of a holistic response to the urgent environmental and humanitarian issues confronting the conflict affected peoples of Darfur.

The expansion and effectiveness of FES programs has also been hampered by a lack of overall coordination and the absence of a strategic plan for enhancing fuel efficiency throughout Darfur. As a result, stove programs have been implemented on an *ad hoc* and episodic basis by interested NGOs without sufficient attention being given to such issues as regional prioritization and the amount of coverage needed within a given region to maximize the benefits that FES programs have to offer. For instance, to the extent these programs may have failed to reduce the rate of GBV in certain areas, that issue might be addressed by concentrating FES resources in a region until the point at which coverage is great enough to substantially affect overall demand.

The principal additional constraints on the expansion and improvement of FES programs have been: (1) a lack of technical expertise by NGOs involved or considering involvement in FES programs; and (2) security and logistical problems that have restricted NGO access to certain IDP concentrations.

5.6. Viability Of Alternative Fuel Sources: While some consideration had been given to solar cooking as an alternative fuel source, no significant efforts have been made to promote solar ovens owing to cultural and practical barriers. In particular, solar ovens, which generally require about four hours of cooking time, are not suitable for cooking flat bread or assida, which needs constant stirring and which is the main staple of the Darfurian diet. Kerosene is also not a practicable substitute, as it is not available at affordable rates.

5.6. Reforestation: While FES programs can make an important contribution, much more needs to be done if the desertification that is overtaking Darfur is to be arrested and reversed. First and foremost, that will require putting into place a large-scale reforestation program. However, despite the compelling need, neither the United Nations nor the Sudanese Government has developed an overall reforestation strategy or, indeed, even undertaken any significant reforestation effort.

6.0. Conclusions:

6.1. The Current Humanitarian Crisis Presents A Unique Opportunity To Promote A Massive FES Intervention: The concentration of what hitherto had been a highly dispersed population into densely crowded camps has substantially facilitated the ability of the international community to reach that population with a large-scale FES intervention. At the same time, given the ability of such an intervention to reduce their vulnerability to GBV and to ameliorate the economic hardship they face, the women who are its intended beneficiaries will never be more motivated to change their habits. Thus, the tragic humanitarian crisis that has displaced some two million Darfurian villagers has ironically facilitated the ability of the international community to assist them in a way that can have a positive, permanent and profound effect on their livelihoods and the environment in which they live.

6.2: The Design Of The Fuel Efficient Stoves Currently Being Promoted In Darfur Can Be Significantly Improved. As set forth above, the FES model presently being promoted in Darfur has reduced the amount of wood and charcoal needed for cooking by thirty to fifty percent. Using existing technology, it is possible to bring that rate up to as high as seventy percent (a rate that Aprovecho has achieved in IDP camps in Northern Uganda). Likewise, the stoves can be made lighter and durable enough to last for two to three years. These improvements can be realized by making certain minor technical adjustments to the design of the stove and insulating it using raw materials that are both cheap and locally available, including, in particular, groundnut shells. Following the training of NGO staff by technical experts from Aprovecho, these technological improvements can be readily integrated into existing FES projects without creating any significant disruption.

6.3. Expansion Of Existing FES Programs In Darfur Will Bring Enormous Benefits At Extremely Low Cost: Even apart from the important role FES programs can play in enabling women to reduce their exposure to GBV, the benefits that they offer to the conflict affected peoples of Darfur are manifest and can hardly be overstated. First, in combination with a concerted reforestation effort and other conservation measures, these programs can help retard and reverse the desertification process that is destroying their way of life and that is the principal

underlying cause of the current crisis. Second, in reducing the amount of wood needed for cooking by up to seventy percent and in cutting cooking time in half, FES programs can substantially improve the quality of life for Darfurian women and their families by reducing expenditures for fuel and freeing up time for income generation and other activities. Third, the smoke that is released when wood and charcoal are burned on an open fire contains high quantities of carbon monoxide, particulate matter and other toxic pollutants hazardous to human health. Indeed, it is estimated that 1.6 million people per year, including nearly one million children, die each year from acute respiratory infections, lung cancer, bronchitis, asthma and other diseases that are caused by inhaling pollutants produced from the burning of biomass fuels during cooking. Insofar as they release just a small fraction of the smoke that is emitted from traditional stoves, fuel efficient stoves substantially decrease the rate of morbidity and mortality from these diseases. Fourth, the use of fuel efficient stoves also greatly reduces the risk of injury to children who can burn themselves by falling into an open fire. And, likewise, fuel efficient stoves also decrease the risk of fire to nearby structures—a particularly serious concern in congested camp environments.

All of these benefits are achievable for a remarkably small investment. The direct cost of producing a fuel efficient stove is just about a dollar per stove or less. Moreover, experience demonstrates that at a certain point FES training will take on a momentum of its own, as the beneficiaries of such training begin to share their knowledge with their relatives, friends and neighbors. Indeed, anecdotal evidence suggests that that is already beginning to happen.

7.0. Recommendations:

7.1. To Aprovecho And Lifeline:

- Send a team of experts to Darfur for a period of two to three months, the mission of which would be to provide technical training and assistance to NGOs with FES programs that will enable them to improve the efficiency and durability of the stoves they are presently promoting.
- Partner with one or more NGOs already on the ground to establish a more permanent presence in Darfur, the mission of which would be to provide continuing technical

training/assistance to NGOs with FES programs, to monitor those programs and to make recommendations relating to how to best expand and coordinate them.

- Provide bridge funding to NGOs needing short-term financial assistance for FES programs and identify and secure funding sources for longer-term assistance.

7.2. To NGOs:

- Take full advantage of existing technologies that will enable them to integrate into their training programs methods and materials that will make the stoves they promote more efficient and durable.
- Use groundnut shells and other suitable substitutes for dung in the production of fuel efficient stoves so as to eliminate the risk of contracting hepatitis.
- Accelerate training programs at existing FES sites and establish such programs at sites in which training is not presently being provided.
- With the exception of sites in which they are already in place, discontinue cash incentives for trainees, as they are not needed to encourage IDP participation and can adversely affect other programs where such incentives are not provided.

7.3. To U.N. Agencies And Donor Countries:

- Imbue a lead agency with the specific mandate to coordinate the response to environmental degradation in Darfur and to develop both an immediate and long-term strategic plan for addressing environmental issues, which should include FES, fuel alternative, conservation and reforestation programs.
- Consistent with the UN's own recommendation made earlier this year, commence a campaign under the auspices of OCHA the Office of the Coordinator for Humanitarian Affairs ("OCHA") to promote FES training "on a massive scale" by encouraging NGOs to redouble their existing FES programs and to launch new programs in sites where they do not presently exist.
- Allocate sufficient funds to provide comprehensive FES coverage throughout Darfur and to commence a meaningful reforestation program.
- Support FES programs through expansion of WFP "food for training" programs.

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