Dealing with energy needs in humanitarian crisis response operations

Quick Scan of policies and best practices of humanitarian aid organizations and potential alternative energy sources and technologies

Executive Summary

Background

The sustainability aspect of energy needs is often not sufficiently addressed by those who provide assistance in humanitarian crisis response operations in post-conflict and post-disaster situations. Despite the fact that UNHCR and other emergency aid organizations have included substantial elements of sustainable energy supply in their policies and plans, implementation is often late or insufficient. The resulting long term humanitarian and ecological effects can be dramatic. In addition, firewood collection poses security problems for women and children, who are forced to travel large distances at the risk of being attacked or raped. There are also significant negative health consequences: exposure to indoor smoke can cause acute respiratory infections which kill many people, especially women and children, also in refugee camps[1].

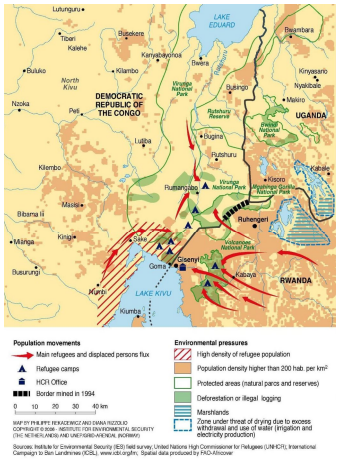
An advocacy and learning project has been set up on the issue of energy use – with a focus on household fuel – in humanitarian crisis response situations, as a cooperative undertaking by the Institute for Environmental Security and IUCN-Netherlands Committee. The goal of this project is to improve the policies and practices of (Dutch) humanitarian aid organisations on fuel-related issues, and to encourage policymakers in the Netherlands to put this issue higher on the agenda.

The following two examples of recent crisis response operations demonstrate that the ecological impacts of refugee camps and settlements can have disastrous consequences for the future livelihood bases of both displaced people and host communities:

Rwandese refugees in Tanzania and DRC

The influx of Rwandese refugees in Tanzania and eastern Democratic Republic of Congo (DRC) in the mid-1990s led to an ecological disaster with huge impacts on forest and water resources, biodiversity and protected areas. In north-western Tanzania, six months after the arrival of half a million refugees, tree resources within 5 km of the camps had been cut down. One year after their arrival, the average distance for getting fuel was 10 km or more. Pastureland in the vicinity of the camps was seriously overgrazed by the thousands of cattle, sheep and goats that came along with the refugees. Another area of environmental degradation was water shortage and pollution of water resources (soil and groundwater). In some places the vegetation was completely cleared for refugee settlements[2].

The Virunga National Park in DRC, a UNESCO World Heritage Site and home to one of the last surviving mountain gorilla populations, was placed under particular threat by refugees seeking firewood, building materials and for large-scale charcoal manufacturing, since the camps were located at walking distance from the Park. As a result, the World Heritage Committee placed the park on its list of endangered natural world heritage sites[3]. The lack of adequate emergency shelter provisions meant that a lot of trees and bushes have been cut inside or on the margins of the park in order to construct basic shelters. Thatching materials have also been cut, leading to growing tensions and potential conflict between displaced people and local farmers[4].



Displaced people in Darfur, Sudan

In Darfur, where two million displaced people have been living in camps since 2003, there has been severe deforestation around the larger camps. Between 2003 and 2005, international agencies were the main consumers of construction timber as they set up the infrastructure for IDP camps. It is estimated that 1.5 million kg of firewood is needed on a daily basis to provide the 2 million people with fuel[5]. Firewood collection is effectively uncontrolled. This has led to situations where camp residents have to travel up to 15 kilometres to find wood, in some cases even up to 75 km (e.g. Kalma camp)[6]. It is reported that, due to this lack of accessible firewood, the food security of a significant number of IDP families have been threatened. In the recent past, firewood patrols have been organized to protect women and girls during firewood collection, but these have been abolished due to insecurity for patrollers and lack of any wood still remaining to be collected[7]. The vibrant relief economy is fuelling a large market for bricks and charcoal, with a dramatic impact on future livelihood options. This is often the only means of earning some income for displaced people and host communities[8].

Frontrunners on fuel-related issues

A number of organisations working on humanitarian crisis response are actively promoting fuel-efficiency and alternative energy sources and technologies. One of these frontrunners is UNHCR, who is leading the process of integration of environmental issues in humanitarian aid projects. However, the organization also admits that much remains to be done. Environmental concerns are still not dealt with in a consistent manner in refugee and returnee situations, but some promising efforts are underway. UNHCR is one of the initiators of the IASC Task Force on Safe Access to Firewood & alternative Energy in humanitarian settings (SAFE), which recently published a number of fuel-related policy guidance tools. It also resulted in the launch of the International Network on Household Energy in Humanitarian Settings (in short the "Fuel Network"), established in June 2007[9].

The World Food Programme (WFP) is the first to take the active step of beginning energy-related programming under the SAFE guidance. Together with the Women's Refugee Commission, a US-based NGO, two pilot projects will start in the fall of 2009 (in Darfur and Uganda). Some individual NGOs have taken steps in the field of fuel-related issues as well. This includes CARE, the International Rescue Committee (IRC), Oxfam GB, Norwegian Refugee Council (NRC) and the

International Committee of the Red Cross (ICRC). At present their initiatives are more on a per-country basis, as opposed to trying to integrate energy needs into global operations.

Fuel-related policies of Dutch humanitarian aid organizations

Among five Dutch Humanitarian Aid agencies interviewed, there is general consensus about the severity of the environmental impacts in and around refugee and IDP camps. The problem of fuelwood shortage was highlighted by the organizations interviewed. Some organisations are actively using the Sphere Handbook[10], which includes specific guidelines on fuel and energy.
However, the response to the problem of fuel wood and energy use varies significantly from one organisation to the other. Only a few organisations are actively working on the ecosystem impacts (and thus livelihood impacts) of household fuel use. Other organisations have indicated that they are not concerned with fuel-related issues. For instance, one organisation is aware of the problem, but indicates it is not in the position to work on fuel issues because of a lack of capacity and means. Basically, it wants to remain focused on its mission, which is providing emergency medical assistance to populations in danger.

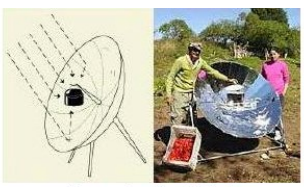
Potential alternative energy sources and technologies

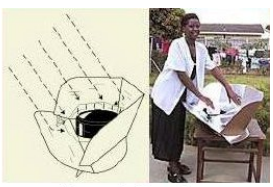
There is a tremendous amount of information on the use of fuel wood and other energy sources, and on how to improve fuel-efficiency. It is concluded that firewood is the default choice; not because it is the best choice, but because it is often easiest or most obvious and often the one with which the beneficiaries are most familiar. If other safer and more effective fuels or energy technologies are easily accessible – and more importantly, mainstreamed into standard procedures and budgets of humanitarian aid agencies – firewood will not remain the default option.

Some of the most interesting alternative fuel options or technologies include:

- Improved/fuel-efficient stoves: interesting pilots of the Save80 stove and the Berkeley Tara stove developed in Darfur[11].
- Fuel Briquettes: successful experiences with the use of charcoal briquettes by Burmese refugees in Thailand[12].
- Biogas: successful pilot by UNHCR with biogas in eastern Afghanistan[13].
- Solar energy: Panel cookers have been successfully introduced in Ethiopia and Chad (interesting pilot on the use of the CooKit), while parabolic/dish cookers were successfully introduced in Nepal[14]. See also the figure below.[15]
- Biofuels: promising pilot with ethanol stoves in Ethiopia (CleanCook Stove)[16].


Box Cookers


Parabolic/Dish


Panel Cookers

Key Conclusions and Recommendations

Conclusion 1

Fuel scarcity is not only an ecological or environmental problem; it is also a significant concern from a social or humanitarian point of view. Natural resources form the livelihood basis of many refugees and local communities. Destruction of ecosystems due to deforestation – through soil erosion, soil degradation, sedimentation, loss of biodiversity, etc – can therefore lead to huge and irreversible damage to the livelihood base of these people.

Recommendation 1.1

Emergency relief should not destroy future development options for the refugees, returnees or host populations. It is crucial that the long term ecosystem impacts of the relief operations are fully taken into account from the start. Donors of emergency aid programmes must assure this approach is mainstreamed in order to avoid potentially huge development aid expenses (caused by soil erosion or lack of drinking water supply) in the future.

Conclusion 2

Fuel scarcity can cause the regeneration of (violent) conflicts between refugees, returnees and host populations. This illustrates the fact that fuel is as much an environmental issue as a security issue.

Recommendation 2.1

More attention is needed for the inclusion of a local conflict analysis and preferably a "Do No Harm" assessment before any fuel-related project starts[17]. This will prevent projects from potentially worsening a conflict instead of providing relief.

Recommendation 2.2

Environmental security should have the same weight as food security, in order to ensure that future livelihoods and human security are not endangered.

Conclusion 3

There is sufficient information available on how best to cope with fuel scarcity. Among international humanitarian agencies and NGOs, there is consensus on the need for more attention to fuel strategies in refugee camps. Many individuals within these organisations acknowledge the importance of integrating the sustainability aspect of fuel as a key component of emergency aid operations, as recommended by UNHCR and the IASC Task Force SAFE. These individuals are aware of the urgency of this and are keen to see changes implemented. However, making this a priority within their own organizations/departments is much more complicated. On

an organisational level, most agencies claim they either lack the funding and/or the technical and human resources capacity to carry them out. The problem is that the speed and scale of the coping strategies are lagging behind the urgency and dramatic scale of the problem of fuel scarcity in many protracted refugee situations. A key factor is that the fuel - ecosystem link is not mainstreamed into the operational procedures.

Recommendation 3.1

There is a need for a more structural change of mind-set towards a willingness to tackle the problems around fuel use in refugee camps, and to make sure these organisations take the necessary action to solve them. The tools and policy guidelines are readily available and it is now a matter of mainstreaming and implementing them within every humanitarian agency.

Recommendation 3.2

The budgets of relief operations should include the implementation of low impact domestic fuel supply and related staff capacity building.

Conclusion 4

Most of the training and stove distribution in refugee and IDP camps have, so far, been *ad hoc* in nature. There has been little sharing of best practices within or between agencies in the same region, leading to significant inefficiencies in programming and design. A general tendency is that emergency aid organisations (working in the acute emergency phase) focus more on the protection/security issues of fuel, while organisations that are focused on early recovery and rehabilitation focus more on the environmental/livelihood issues of fuel. Despite the difference in scope (short term vs. long term), both types of organisations are in essence striving for the same: more sustainable fuel supplies and improved livelihoods.

Recommendation 4.1

There is a strong need for better coordination of fuel-related initiatives.

Recommendation 4.2

To start with, all Netherlands based humanitarian aid agencies will be invited to engage in further dialogue on this issue. They will be challenged to take up a more holistic, integrated approach with sufficient attention for a minimised ecosystem impact of fuel supply in emergency response situations. Destroyed ecosystems (and services) will put future claims on the ODA budget with regard to fresh water supply and soil erosion.

[1] WHO (2006). Fuel for life. Household energy and health. http://www.projectgaia.com/FuelforLifeWHO.pdf

[2] HPN (1995). The impact of refugees on the environment and appropriate response. Issue 4. Humanitarian Practice Network.

[3] Kalpers, J. (2001). Volcanoes under Siege: Impact of a Decade of Armed Conflict in the Virungas. Washington D.C.: Biodiversity Support Programme. http://www.worldwildlife.org/bsp/publications/africa/144/titlepage.htm

[4] ProAct Network (2008), Assessing the effectiveness of fuel-efficient stove programming – a Darfur wide review. http://proactnetwork.org/proactwebsite/index.php/publications/reports/36-projectreports/112-fesreport

[5] Gadgil A. & S. Amrose (2006). Darfur Fuel-Efficient Stoves (FES). Lawrence Berkeley National Laboratory (LBNL). http://www.bioenergylists.org/btara

[6] UNEP (2007). Sudan Post-Conflict Environmental Assessment. Chapter 5: Population displacement and the environment. http://www.unep.org/sudan/; UNEP (2008). Destitution, distortion and deforestation. The impact of conflict on the timber and woodfuel trade in Darfur. http://postconflict.unep.ch/publications/darfur_timber.pdf

[7] Pers. comm. Erin Patrick, Women's Refugee Commission, September 2009

[8] Tearfund (2007). Darfur: relief in a vulnerable environment. http://www.tearfund.org/webdocs/website/Campaigning/Policy%20and%20research/Relief%20in%20a%20vulnerable%20envirionment%20final.pdf

[9] See: http://www.fuelnetwork.org

[10] See: http://www.sphereproject.org/content/view/27/84/lang,english/

[11] WRC (2006a). Finding trees in the desert: firewood collection and alternatives in Darfur. Women's commission for refugee women & children. Women's commission for refugee women & children. http://womenscommission.org/pdf/df_fuel.pdf ; Gadgil A. & S. Amrose (2006).

[12] UNHCR (2002). Cooking options for refugee situations, p.26. United Nations High Commissioner for Refugees. http://www.unhcr.org/406c368f2.html

[13] Ibid.

[14] Institute for Environmental Security (2009). Renewable energy for Africa – an overview of nine potential technologies. http://www.envirosecurity.org/actionguide/view.php?r=233&m=publications; WRC (2006b). The perils of direct provision: UNHCR's response to the fuel needs of Bhutanese refugees in Nepal. Women's commission for refugee women & children. http://womenscommission.org/pdf/np_fuel.pdf

[15] Solar Cookers International (2009). http://solarcookers.org/basics/how.html

[16] UNHCR (2008a). UNHCR partner wins green award for pioneering ethanol stove. News story, 23 June 2008. http://www.unhcr.org/485fc7622.html

[17] The Do No Harm method was developed by the US based CDA Collaborative Learning Projects, see: http://www.cdainc.com/cdawww/project_profile.php?pid=DNH&pname=Do%20No%20Harm