FAO IN EMERGENCIES

GUIDANCE NOTE

SAFE ACCESS TO FIREWOOD AND ALTERNATIVE ENERGY IN HUMANITARIAN SETTINGS

KEY MESSAGES

Safe access to cooking fuel can save lives in humanitarian contexts; supporting safe access to sufficient and appropriate cooking fuel for affected populations requires greater attention and a multi-sectoral approach from the humanitarian system.

The collection, supply, and use of biomass cooking fuel in emergencies creates a myriad of risks for crisis-affected people and their environment, including rape or assault during firewood collection, environmental degradation, and respiratory illnesses caused by the indoor burning of biomass materials.

Firewood collection and charcoal production put an increased strain on already fragile environments, contributing to soil erosion, desertification, increased exposure to natural disasters such as droughts and floods, and to loss of agricultural livelihoods.

Food and energy security are basic requirements in a humanitarian response as well as for poverty reduction and rural development. Not properly addressing fuel needs during a humanitarian response can have a direct bearing on immediate and longer-term food and nutritional security.

FAO's response to the cooking needs of assisted populations in emergency and recovery contexts focuses on **natural resources management** and **livelihood** activities, contributing to increased resilience in crisis and disaster-affected areas.

SAFE ACCESS TO FIREWOOD AND ALTERNATIVE ENERGY IN HUMANITARIAN SETTINGS: THE 'SAFE' APPROACH

In times of conflict, natural disasters or complex emergencies, accessing cooking fuel may put at further risk the lives of affected populations. Women and children not only expose themselves to risks of assault and other forms of gender-based violence (GBV) while they fetch firewood, but they may be forced to resort to negative coping mechanisms such as sex in exchange for fuel.

Lack of safe access to sufficient and appropriate cooking fuel may force people to change their eating and cooking habits, moving to less preferred/lower quality food or reducing the number of meals. In addition, families may resort to commodities that require less cooking time; to undercooking their food to save on fuel; or to selling/bartering part of the food ration for fuel. These practices may have a negative effect on the quantity, quality and nutritional value of the food consumed.

Estimates indicate that 2.7 billion people – almost 40% of the world's population – rely on biomass, especially woodfuel, for their cooking. This negatively impacts the environment and can result in soil erosion, deforestation, desertification, and the potential for a higher occurrence of natural disasters, possibly limiting agricultural livelihoods and negatively impacting food security.

Highly concentrated populations in resource-scarce environments, having partially or completely lost their livelihoods – as in many humanitarian settings - often resort to wood-intensive activities for income. These activities may generate quick revenues but put further strain on an already scarce natural resource base. About 350 million of the world's poorest people, including 60 million indigenous people, use forests intensively for their subsistence and survival.

In addition, the smoke generated from indoor burning of solid fuel causes nearly 2 million premature deaths every year. Women and children are particularly vulnerable to health and respiratory problems since they often reside in poorly ventilated dwellings. In addition, the time women spend collecting wood also reduces the amount of time they are able to dedicate to other productive and caring activities. This is especially important in the case of female-headed households. Acknowledging these problems and how they can be further exacerbated in humanitarian settings, the Inter-Agency Standing Committee (IASC) established a Task Force on Safe Access to Firewood and alternative Energy (TF SAFE) in 2007. During the 18 months of the TF's existence, FAO, together with 24 other humanitarian agencies and NGOs, worked to develop and implement a coordinated multi-sectoral strategy to cooking fuel in humanitarian settings.

Typically, SAFE can include some or all of the following activities: provision and/or production of fuel-efficient stoves (FES) and alternative fuels; investments in sustainable natural resources for fuel; and promotion of non-woodfuel intensive livelihoods to counter environmental degradation resulting from negative coping strategies. Within this framework, the term *cooking energy systems* is generally used to refer to all those aspects related to cooking, including fuel, stoves, pots, cooking utensils as well as cooking practices and behaviours.

Drawing on its mandate, FAO committed to take a primary responsibility for the sectors of the environment and the management of natural resources (together with UNHCR); and livelihoods, development and food security (together with UNDP). In addition, FAO agreed to collaborate with WFP for activities on food and nutrition.

FAO is also a partner of the Global Alliance for Clean Cookstoves, a public-private partnership launched by the UN Foundation in 2010 to promote the adoption of clean cookstoves and fuels in 100 million households by 2020. The Alliance has a market-based approach that integrates the adoption of clean cookstoves and fuels with rehabilitation of livelihoods in post-emergency contexts.

PRINCIPLES FOR FAO ENGAGEMENT IN SAFE INTERVENTIONS

The principles underpinning FAO's engagement in SAFE-type interventions include:

Sustainable use of natural resources: FAO promotes and supports SAFE interventions in humanitarian settings that (i) minimize negative impacts on the environment in the short-term; and (ii) that help build resilient *cooking energy systems* for crisis and disaster affected communities – systems that can absorb, accommodate or recover from fuel and energy pressures that arise as a result of crises or disasters.

Protection and do no harm – FAO aims to minimize the potential adverse effects of interventions and, where possible, contribute to the overall protection of all segments of the affected population. This includes assessing cooking fuel needs in emergency and recovery contexts; factoring in the risks women and children expose themselves to while collecting firewood; and, in partnership with the other actors, assessing the impact of its programming on protection and gender-based violence (GBV) risk reduction.

Special attention to women and children – evidence suggests that women and children, as primary firewood collectors, are particularly affected by assaults and GBV. Since women and children also spend more of their time in the house, they are also the ones most at risk from indoor air pollution and health problems caused by burning biomass in poorly ventilated homes or shelters.

Holistic, multi-sectoral approach and partnership – The multidimensional nature of cooking fuel requires the development of a well-coordinated strategy that cuts across many sectors of a typical humanitarian intervention (e.g. energy, protection, environment, livelihood, food and nutrition, health, etc.). While individual agencies may focus efforts on specific sectors, a holistic view should be maintained and partnerships with other relevant actors should be established to ensure the delivery of an integrated and efficient fuel response.

IMMEDIATE AND MEDIUM-TO-LONG-TERM ACTIONS FOR INCLUDING COOKING FUEL RESPONSES IN FAO'S EMERGENCY AND REHABILITATION WORK

FAO's emergency and rehabilitation work aims to provide immediate assistance in the aftermath of a crisis or disaster, reduce exposure to natural hazards, increase resilience and response capacity of countries and affected populations, and engage in activities that foster the transition from relief to recovery of food and agricultural systems.

Addressing the cooking fuel needs of assisted population is closely linked to FAO's mandate. First, regeneration and sustainable management of forest resources contribute to reducing the risks and impacts of natural disasters. The use of FES and alternative fuels reduce the need for firewood and charcoal, thus decreasing the pace of deforestation and desertification processes.

Second, for most people living in rural areas, forests represent an important source of fuel, food, fodder, medicines, building material as well as the cash income that comes with these livelihood activities. Environmental protection and regeneration – paired with livelihoods promotion and diversification activities - are therefore key to increasing the response capacity and resilience of populations. For instance, planting drought-resistant trees with an economic value, such as the Gum Arabic, provides affected people with revenues while at the same time protecting the environment from the effects of natural disasters or other pressures on the environment such as the influx of displaced populations.

Finally, depletion of forest resources increases household burdens, especially for women who are often responsible for meeting household food and fuel needs. Providing cleaner and more efficient alternatives to traditional cooking stoves and fuels can free time for women to engage more in productive and caring activities, with positive impact on the family's nutrition and food security. In addition, reduced frequency of collection trips due to greater fuel and stove efficiency can mean less exposure to protection risks.

Immediate actions

In the aftermath of a natural disaster or a conflict, access to cooking fuel becomes vital. Firewood and charcoal being the most common, easily available and accessible cooking fuels in such settings, reliance on them by both the hosts and displaced populations not only leads to overexploitation and environmental degradation, but could also result in tensions between them over control and use of these scarce resources.

In addition, firewood and charcoal selling often becomes an important livelihood option in emergency contexts, especially for refugees who, by law, may be restricted from participating in the labour market. The high dependence on woodfuel limits the possibilities to recover from the emergency and rebuild livelihoods.

Cooking fuel responses that FAO can undertake or support in the early phase of an emergency include, but are not limited to:

- Ensuring that cooking fuel considerations are included in post-emergency assessments and in project design and planning, with a particular attention to the bearings these issues have on the environment and the management of natural resources, and on agricultural livelihoods.
- Ensuring that context and socio-cultural analyses are carried out in order to understand which fuels are used, and for what purposes, their availability, and existing cooking practices to select the most appropriate cooking energy systems to be promoted. At the same time, this analysis can provide insights into the multiple challenges associated with access to cooking fuel and help shape plans to deliver a comprehensive fuel response.
- Connecting and sharing information with multiple actors across relevant sectors of intervention as well as mobilizing expertise in support of better-coordinated and more effective responses to the fuel needs of assisted populations.
- Ensuring that women and children are targeted for assistance as they are usually the main firewood collectors as well as being most at risk to the harmful consequences of unsafe access to cooking fuel.
- Advocating and raising awareness with beneficiaries, other humanitarian organizations and donors on the benefits and life-saving importance of adopting cleaner and more efficient cooking energy systems, including by emphasizing impacts on the environment and livelihoods.

Medium-to-long-term actions

While some measures play an important role in easing the short-term burden of accessing cooking fuel and related challenges, others pave the way for effective medium-to-long-term solutions. Also, security, logistical and other constraints can prevent some activities from being promoted in the earliest emergency stage.

Depending on the activity, a longer time span may be needed for results to become visible. Yet, to ensure transition and durable effects, analysis and a medium-to-long-term perspective should be integrated into humanitarian response.

In the medium term, SAFE, as the IASC TF has defined it, ensures coherence between emergency and more long-term interventions in sustainable management of natural resources, food security and livelihoods. More specifically, in the earliest stages of disaster response addressing the cooking fuel needs helps mitigate the potential negative impact on the environment; in conjunction with the earliest interventions, investments in regeneration and sustainable management of natural resources are key in rebuilding the lives of crisis-affected populations.

Equally important are activities aimed at restoring people's capacity to earn an income after having lost their productive assets, including the development of alternative livelihood opportunities for those who are currently dependant on firewood collection and charcoal production for living. Among others, investments in the promotion and production of alternative fuels such as biogas, wood pellets, bioethanol, and, depending on the context, low-cost solar panels not only can represent an opportunity for sustainable livelihood options, but can also contribute to improving the health conditions of rural people.

The promotion of Integrated Food Energy Systems in developing countries – most of which are agro-forestry systems – can provide both environmental and productive services to communities. Environmental services associated with IFES include conservation of biodiversity and strengthened resilience with respect to changing environmental conditions and stresses as well as fluctuating climate. Furthermore, IFES contributes to protection of watersheds, provides seasonal nutritional security and food diversity. Productive functions include the provision of food, fodder, fuelwood, construction materials and medicinal products to target groups. Hence the promotion and adoption of IFES has the potential to ease the transition from recovery to resilient livelihoods. More efficient cooking energy systems also contribute to reducing the carbon emissions derived from incomplete combustion that negatively affect both people's health and global warming. Promoting improved cooking energy systems therefore could provide opportunities for carbon financing.

Carbon credits projects have proven difficult to implement in emergency contexts, mainly due to the time-consuming and costly requirements imposed by carbon financing institutions. Yet carbon credit projects may be viable in transition and development contexts. Similarly, investments in alternative, renewable, and low-cost household energy and technologies often require medium-to-long-term planning and implementation capacity.

FAO's medium-to-long-term activities may include the following:

- Generating and disseminating evidence - to beneficiaries of assistance, partner organizations, humanitarian actors and donors - on the benefits of SAFE activities for affected populations and the environment.

- Engaging with governments and local authorities to promote alternative cleaner fuels and more efficient cooking technologies, and creating opportunities for the reduction of black carbon emissions derived from cooking with woodfuel.

- Exploring opportunities for carbon financing to promote SAFE-related activities such as afforestation, reforestation, distribution and manufacturing of FES and biofuel production.

- Promoting small-scale biofuels production as an alternative source of cooking fuel, as an alternative livelihood for farmers, and as a climate change mitigating intervention. The production of biofuels can also in some cases provide by-products useful as fertilizers for FAO's agricultural projects. However, attention should be paid to ensure that food availability is not hampered by subtracting land and water resources away from food production.

- Promoting integrated food energy systems (IFES) in order to address energy and food needs simultaneously. The production of food and biomass for fuel can be combined on the same plot (i.e. multiple-cropping or agroforestry sometimes coupled with livestock farming and/or fisheries) or agricultural products and their residues can be exploited for multiple uses (e.g. gasification of crop residues or anaerobic digestion of animal manure).

- Supporting environmental activities that aim to re-establish natural resources such as community wood-lots (which may serve as feedstock for sustainable or 'green' charcoal production) while at the same time promoting agro-forestry systems.

- Integrating cooking fuel issues and related responses in the framework of FAO's Farmer Field School approach.

Partnership and coordination

The multidimensional nature of the issue of cooking fuel requires partnership among actors across relevant sectors of interventions to ensure that all fuel-related needs and concerns are sufficiently and appropriately addressed. As outlined in the SAFE Matrix endorsed by the IASC (see link in "Resources and further reading, below), there is no single fuel agency, but instead roles and responsibilities are assigned to all members in a coordinated fashion.

The sustainability of cooking fuel interventions also depends on coordination between sectors as well as convergence with related projects. Finally, concerted efforts reduce the risks of duplications and create opportunities for cost reductions.

Experience shows that often there are a number of actors implementing activities on FES or alternative sources of cooking fuels on the ground. In such a context it is fundamental that actors coordinate, work in partnership, communicate and share experiences to avoid past mistakes and capitalize on successes.

Failure to do so can result in further harm to the populations of concern. An example of this is distributing FES without due consideration to the economic impacts this may have on those who rely on income from firewood and charcoal sales. Equally attractive alternatives should be made available to them to ensure they do not to suffer from loss of income. Unless alternative, non-woodfuel livelihood options are provided that are as economically attractive as selling firewood and charcoal, new risks may be generated that offset the positive protection and environmental impacts of introducing the stoves.

IV. INTEGRATING COOKING FUEL RESPONSES IN FAO EMERGENCY AND REHABILITATION PROGRAMMING

The following checklist may help staff and partners integrate cooking fuel responses in FAO's emergency and rehabilitation interventions, in line with the SAFE approach promoted at the inter-agency level.

Post-disaster assessment

- Have cooking fuel-related considerations been included in the Livelihood Assessment Toolkit (LAT), the SEAGA and in any other relevant FAO assessment tools?
- Have the cooking fuel needs of the affected populations been assessed? Assessments, at minimum, should include the following:
  - Type of cooking fuel being used (e.g. firewood, charcoal, dung, briquettes, kerosene, LPG, etc.)
  - Quantity of fuel needed (e.g. by households, schools, hospitals, etc. on a weekly or monthly basis)
  - Collection sites and availability: where and how fuel is sourced? How much of it is available?
  - Costs, both money and time (e.g., if cooking fuel is purchased, how much of the total household income is spent on it monthly? How much time is dedicated to collect cooking fuel?)
  - Impact on the environment: does the collection of fuel have negative impacts on the environment (e.g. deforestation, soil erosion, desertification, etc.)?
  - Uses of fuel aside from cooking (e.g., is fuel used to generate an income? Is it used for heating?)
  - Risks and challenges faced during collection, supply and use of fuel for cooking, including population most at risk
  - Cooking practices: is cooking done indoors or outdoors? Is cooking done collectively? Are fuel-saving cooking practices known and used (e.g. using lids, pre-soaking legumes, etc.)?
- Has mapping of existing fuel interventions and related actors being done?

Design and planning

- Have the following SAFE-related interventions been considered when designing emergency and rehabilitation interventions?
  - ***Environment:*** establishment and maintenance of tree nurseries; tree planting, especially of drought-tolerant/multi-purposes trees to address both household food and energy needs (e.g. pigeon peas, moringa oleifera, etc.); reforestation; home gardens; irrigation and water conservation systems; etc.
  - ***Livelihoods:*** stove production and selling; alternative fuels (especially biofuels) production and selling; agriculture-based livelihood activities (e.g. cultivation of crops for food or biofuel purposes, fisheries, production and selling of dairy products, etc.); micro-credit for agricultural tools and seeds; etc.
  - ***Stoves and fuels:*** distribution/manufacturing of FES at household level and institutional levels; training on production and maintenance of FES and fuel-saving practices; production of alternative fuels (e.g. briquettes, ethanol, biogas, etc.)
  - ***Protection:*** training and awareness raising on GBV and protection risks related to fuel collection, supply and use
- Have cooking fuel-related interventions been included in the country programming framework?

Targeting

- Have community-based participatory methods been used to understand fuel-related challenges of both the affected population and the host community?
- Have socio-cultural and gender analyses informed the targeting and the identification of who is most affected by cooking fuel-related challenges?
- Has an inclusive approach been used to avoid tensions between displaced and host populations?

Partnership and coordination

- Have specific partnerships been sought with: local and international actors implementing cooking fuel responses, stove and fuel experts, etc. for technical advice, capacity building, sharing of information, joint interventions, etc.?
- Have other clusters/sectors been consulted for establishing a coordinated fuel response with a clear division of roles and responsibilities?
- What is FAO doing with regards to the roles and responsibilities established in the IASC TF SAFE Matrix? What has FAO been doing to comply with the leading roles it has committed to?

A GLIMPSE AT FAO COOKING FUEL RESPONSES

A long-standing commitment to FES promotion in Darfur

FAO has long been engaged in promoting the use of FES in Darfur, going back well into the 1990's.

FAO's role is primarily in support of local partners, which promote the production and distribution of the stoves and which emphasize building manufacturing capacity among women. FES activities complement FAO's livelihood restoration interventions, which are geared towards increasing regional agricultural and livestock production. Between 2006 and 2008, FAO supported the distribution of 55,226 FES.

In addition, in 2008 FAO undertook the Darfur Timber and Energy Project in partnership with UNEP, distributing 300,000 FES, establishing 12 community forests and woodlots, introducing agro-forestry as a land use system and conducting a forest inventory.

In December 2011, FAO together with the State Ministry of Agriculture and National Resources' Forests National Corporation convened the 'Alternative Energy and Fuel Efficient Stoves Stakeholders Consultation Workshop' to discuss the challenges related to the implementation of FES programmes in the region. Recommendations included the development of a standardized training on FES production, which FAO is acting upon jointly with WFP.

Good for women and the environment – FES experience in Ethiopia

In Ethiopia, people used to cook food using considerable quantities of animal manure and crop residue, since firewood was a scarce resource. Emissions from biomass burning adversely impacted the health of women and poisoned the environment. The practice negatively affected soil fertility and agricultural yields. FAO therefore decided to introduce FES and train women on their production and trade. This has resulted in reduced strain on the environment and time saved for women to engage in productive activities.

Protection and the environment in Karamoja, Uganda – partnering with the Government and WFP

SAFE activities in Uganda are linked to the Karamoja Productive Assets Programme (KPAP), a joint programme of the Government of Uganda, WFP, and FAO. Since April 2010, the SAFE approach in Karamoja has aimed to reduce the vulnerability of women to protection risks associated with collecting firewood, while at the same time reducing environmental degradation. WFP takes the lead on the promotion and dissemination of fuel-efficient stoves (FES) at household and institutional levels while FAO has lent its expertise to the establishment of woodlots that reduce the distance women

and girls walk in order to collect firewood. Taking advantage of FAO-supported Agro-Pastoralist Field Schools, both FAO and WFP promote sustainable natural resource management for various livelihood zones with the overall aim of protecting and regenerating the fragile environment. Food and cash for work schemes support public works such as reforestation activities, establishment of fodder banks, livestock watering points, waste management and watershed management projects. At the household level, farmers, agro-pastoralists and pastoralists receive technical support and inputs to help them diversify towards more sustainable livelihoods - for example through the establishment of fruit orchards, dairy production, bee-keeping and vegetable gardens.

VI RESOURCES/FURTHER READING

A - General guidance/resource material:

- www.fuelnetwork.org
- Global Alliance for Clean Cookstoves: www.cleancookstoves.org
- WFP (2012). *WFP Handbook on Safe Access to Firewood and alternative Energy*. Rome, WFP.
- USAID (2010). *Fuel-Efficient Stove Programs in Humanitarian Settings: an Implementer's Toolkit*. Washington, DC, USAID.
- GIZ HERA Compendium, Cooking Energy Systems: https://energypedia.info/index.php/GIZ_HERA_Cooking_Energy_Compendium.

B - Inter-Agency Standing Committee:

- IASC TF SAFE (2009). Matrix on Agency Roles and Responsibilities for Ensuring a Coordinated, Multi-Sectoral Fuel Strategy in Humanitarian Settings: http://www.fuelnetwork.org/index.php/Formal-Launch-of-IASC-Task-Force-SAFE-Outputs
- IASC TF SAFE (2009). Decision Tree Diagrams on Factors Affecting Choice of Fuel Strategy in Humanitarian Settings: http://www.fuelnetwork.org/index.php/Formal-Launch-of-IASC-Task-Force-SAFE-Outputs

C - FAO resources:

- FAO. *Socio-Economic and Gender Analysis – SEAGA for Emergency and Rehabilitation Programmes*. Rome, FAO.
- FAO (2010). *Carbon Finance Possibilities for Agriculture, Forestry and Other Land Use Projects in a Smallholder Context*. Rome, FAO.
- FAO (2010). *Making Integrated Food-Energy Systems Work for People and Climate – An Overview*. Rome, FAO.
- FAO (2010). *What Woodfuels Can Do to Mitigate Climate Change*. Rome, FAO.
- FAO (2008). *Forests and Energy – Key Issues*. Rome, FAO.
- FAO (2006). *Energy and Gender Issues in Rural Sustainable Development*. Rome, FAO.
- PAC (2009). *Small-Scale Bioenergy Initiatives: Brief Description and Preliminary Lessons on Livelihood Impacts from Case Studies in Asia, Latin America and Africa*. Rome, FAO.
- http://www.fao.org/forestry/en/

For more information on displacement or support to field programming, contact:
relief-operations@fao.org

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