WFP Handbook on Safe Access to Firewood and alternative Energy (SAFE)

2012 Edition

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SAFE

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Foreword

Safe access to cooking fuel is critical for the most vulnerable in humanitarian, transition and development settings. Without it, people face risks to their health, safety and well-being. A survey conducted in 17 countries where the World Food Programme (WFP) operates confirmed that beneficiaries often resort to negative coping mechanisms to cook WFP food. To collect firewood women may have to venture into dangerous environments in which they risk gender-based violence, including rape. To save fuel, beneficiaries may undercook food or skip meals. To buy firewood, they may sell part of their rations.

At the Copenhagen Climate Change Conference in December 2009, WFP committed to: *'work with its partners to make safe access to firewood and alternative energy a reality for half of its displaced beneficiary population through the Safe Access to Firewood and alternative Energy (SAFE) initiative, by targeting WFP beneficiary households and WFP-assisted schools'.*

This handbook will guide current and future WFP programming. It will help professionals understand the broader impacts of limited access to cooking fuel and how SAFE can mitigate them.

Lack of safe access to fuel in humanitarian, transition and development settings has far-reaching consequences, influencing: food assistance outcomes; long-term food security; beneficiaries' safety, dignity, health and livelihoods; women's vulnerability to gender-based violence; and the environment.

The handbook also guides the implementation of the SAFE initiative as part of WFP's commitment to school meals programmes where safe access to cooking fuel and environmental degradation can be an issue. This commitment is grounded in the joint collaboration of UNICEF and WFP on the Essential Package of twelve integrated interventions, including the promotion and provision of improved stoves, to enhance the efficacy of school meals programmes.

This handbook was prepared by the Humanitarian Policy and Transitions Service. It is the result of wide consultation with key stakeholders including UN Agencies, NGOs, technical partners, and WFP staff at Headquarters and in the field.

Acknowledgements

This handbook was inspired by the increasing engagement of WFP in the operationalization of an integrated approach to cooking fuel in countries where it operates and the need for guidance therein.

This handbook was drafted by Mariangela Bizzarri as the lead author (GenderConsult), Catherine Bellamy (WFP) and Veronique Barbelet (Humanitarian Policy and Transitions Service, WFP). This handbook is also the result of a widespread consultation within WFP (Gender, Climate Change, Humanitarian Policy, School Feeding, Monitoring and Evaluation, Food Security Analysis, Programme Design, Operations and field offices), and externally with Christoph Messinger (GIZ), International Lifeline Fund, UNHCR and Erin Patrick (Women's Refugee Commission). All contributions are gratefully acknowledged.

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Acronyms and Abbreviations

ACRA	Cooperazione Rurale in Africa e America Latina
BG-RCNN	Banaspati Gueetha Resource Center Network
CBO	community-based organization
CCT	Controlled Cooking Test
CCCM	Camp Coordination and Camp Management
CDM	Clean Development Mechanism
CFSVA	Comprehensive food security vulnerability analysis
CSB	corn-soya blend
EFSA	Emergency food security assessment
EPA	United States Environmental Protection Agency
FAO	Food and Agriculture Organization of the United Nations
FAQ	frequently asked question
FES	fuel-efficient stove
FFA	Food for Assets
FFT	Food for Training
FFW	Food for Work
FGD	focus group discussion
GBV	gender-based violence
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German International Cooperation)
GS	Clean Development Mechanism Gold Standard certification
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit (now called GIZ)
HQ	Headquarters (WFP)
IAP	indoor air pollution
IASC	Inter-Agency Standing Committee
IASC TF	Inter-Agency Standing Committee Task Force
IDEA	Integrated Development Association
IDP	internally displaced person
IEC	information, education and communication

IGA	income-generating activity
IOM	International Organization for Migration
KPAP	Karamoja Productive Assets Programme
KPT	Kitchen Performance Test
LPG	liquefied petroleum gas
M&E	monitoring and evaluation
NARI	Nimbkar Agricultural Research Institute, India
NFI	non-food items
NGO	non-governmental organization
PROBEC	Programme for Basic Energy and Conservation
REDD	Reducing Deforestation and Forest Degradation
SADC	South African Development Community
SAFE	Safe Access to Firewood and alternative Energy
SNV	Stichting Nederlandse Vrijwilligers (Foundation of Netherlands Volunteers)
SSFS	Standardised school feeding survey
ToR	terms of reference
ToT	training of trainers
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCC	United Nations Framework Convention on Climate Change
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNHCR RLO	UNHCR Regional Liaison Office
UNICEF	United Nations Children's Fund
USAID	US Agency for International Development
WBT	Water Boiling Test
WFP	World Food Programme
WHO	World Health Organization
WRC	Women's Refugee Commission

Glossary of Terms

Alternative/complementary cooking devices – any device that helps cooking food while reducing fuel consumption. Normally, these devices do not require fuel, but use alternative sources of energy such as for example the sun or use insulation to continue the cooking process after direct heat is removed. Examples are solar cookers and heat retention cooker (hay basket).[1]

Biofuel – liquid fuel derived from biomass processing. It is produced mainly from plants, but also from agricultural or organic waste and from cellulosic materials. There are two main types of biofuel: alcohols (e.g. ethanol) and oils (e.g. jatropha and palm oils).

Biogas – gas produced during the digestion of organic material in the absence of oxygen. Feedstock can include animal manure, human excrement and agricultural waste. The gas produced can be used for cooking, lighting and heating.

Biomass – organic material derived from plants or animals, and used as a renewable energy source. Commonly, biomass includes animal and agricultural waste, firewood and charcoal.

Briquettes – densified products manufactured from organic matter, such as agricultural or organic waste, sawdust or peat, through compaction, complete carbonisation, charring or a mix of these processes. Compaction is usually achieved with the aid of a binder.

Charcoal (or Lump Charcoal) – is produced by burning wood slowly at high temperatures in the absence of oxygen. Charcoal is more energy-dense than wood. It is also much lighter, which makes it easier to handle and transport in urban and peri-urban areas.

Cooking energy system – a term that encompasses all aspects of cooking. It includes fuel, the stove, pots, utensils, lids and cutlery as well as cooking behaviours and practices.

Fuel-Efficient Stoves (FES)/Improved Stoves – stoves designed specifically to reduce fuel consumption and to substitute for the traditional three-stone fire. They can be made of mud, clay, or metal, and they can use different types of fuel, such as firewood, charcoal, briquettes, biofuels, liquefied petroleum gas (LPG), etc.

Fuel efficiency – percentage of the heat energy produced during the combustion of fuel that is used to heat food or water.[2]

1. See the 'Stoves fact sheet' in Part V.
2. USAID (2010). *Fuel-Efficient Stove Programs in Humanitarian Settings: An Implementer's Toolkit*. Washington, DC: USAID, 73.

Fuelwood – a synonym for firewood. Not to be confused with the term woodfuel, which incorporates both firewood and charcoal.

Gender-based violence (GBV) – an umbrella term for any harmful act that is perpetrated against a person's will and that is based on socially ascribed differences between males and females.[3] The term highlights the gender dimension of these acts that, while committed more often against women and girls, can also be experienced by boys and men. Among the most common forms of GBV are rape, sexual assault, harassment, domestic violence, trafficking, forced marriage and traditional harmful practices such as female genital mutilation.

Household energy – energy that a household needs for cooking, boiling water, heating, cooling, lighting and to run appliances such as radio, television and cell phone.

Indoor Air Pollution (IAP) – contamination of the indoor air caused by small particles and carbon monoxide contained in the smoke produced by cooking and heating with open fires and traditional stoves.[4]

Nutrition – intake of food, considered in relation to the body's dietary needs.[5]

Pellets – densified products manufactured from organic matter, such as agricultural or organic waste, sawdust or peat. Contrary to briquettes, for pellets no binder is needed as the lignin melts under the extremely high pressure and bonds fibres naturally.[6]

Protection – all activities aimed at obtaining full respect for the rights of the individual in accordance with the letter and the spirit of the relevant bodies of law (i.e. Human Rights Law, International Humanitarian Law, and Refugee Law).[7] It encompasses the three concepts of safety, dignity and integrity.

Three-stone fire – made by three stones or bricks arranged around an open flame, upon which a pot is resting, it is the most widely-used and traditional way to cook.

Woodfuel – any fuel derived from wood. Usually, the term refers to firewood and charcoal.

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3. IASC (2005). *Guidelines for Gender-Based Violence Interventions in Humanitarian Settings – Focusing on Prevention and Response to Sexual Violence in Emergencies*. Geneva: IASC.
4. http://www.who.int/indoorair/en/index.html, accessed 6 February 2012.
5. http://www.who.int/topics/nutrition/en/, accessed 6 February 2012.
6. GIZ HERA (2011). *Micro-Gasification: Cooking with Gas from Biomass – An Introduction to the Concept and the Applications of Wood-Gas Burning Technologies for Cooking*. Eschborn: GIZ, 13.
7. This definition was firstly agreed upon in the 1999 Workshop of the International Committee of the Red Cross (ICRC) on Protection, and then integrated in the IASC Policy Paper on Protection of Internally Displaced Persons (1999).

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Overview of the handbook

Part I
Introduction

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1.1 Purpose

Every day, millions of women and children risk being raped, beaten or killed as they search for and collect the firewood they need to cook their food. In poorly ventilated dwellings, smoke from solid fuels exposes occupants to heightened risks of respiratory diseases. Women and children are especially susceptible because they spend the most time near the cooking area. Use of wood and charcoal for cooking also contributes to environmental degradation. This, in turn, may limit livelihood options and food assistance outcomes.

Lack of access to cooking fuel can also become an obstacle to school feeding programmes. The World Food Programme (WFP) provides school meals to an average of 22 million children in over 60 countries each year. In fragile environments, firewood scarcity or the cost of contributing fuel prevents some of the most vulnerable from benefitting from school meals. There is an environmental cost too. In most school feeding programmes, meals are cooked five days a week throughout the school year.[8] The impact of large-scale school feeding programmes on forests is of concern to national governments and their partners.

The SAFE approach – especially the provision of fuel-efficient stoves, alternative sources of cooking fuel and the introduction of livelihood alternatives (instead of selling firewood and charcoal) – reduces the exposure to protection threats and allows beneficiaries to take advantage of the food ration safely and with dignity, increasing their chances of achieving long-term food security.

SAFE optimises the utilization and consumption of WFP food: fuel-efficient stoves burn more efficiently, allow adequate cooking of foods, reduce household expenditure on cooking fuel, and lessen the risk of children being deprived of their school meals if unable to contribute woodfuel to schools. The stoves also mitigate the health risks for cooks of continually inhaling unhealthy smoke.

Finally, by mitigating woodfuel consumption and providing alternative, non-woodfuel intensive livelihoods, the SAFE approach helps reduce soil erosion and environmental degradation, thus working towards longer-term food security objectives.

8. UNICEF/WFP (n.d.). *The Essential Package: Twelve Interventions to Improve Health and Nutrition of School-age Children*. Rome: WFP, 18.

The SAFE approach typically includes some or all of the following activities:

- Assessment of fuel and cooking needs;
- Provision of fuel-efficient stoves and alternative sources of fuel (including local production of fuel-efficient stoves and alternative fuels);
- Training of end-users on fuel-efficient practices, including food and fuel preparation and cooking, and stove use and maintenance;
- Investment in natural resources for fuel, such as tree planting and other environmental activities;
- Promotion of alternative livelihoods for women engaged in the gathering of, or production and sale of firewood and charcoal;
- Research into context-specific technologies and the introduction of innovative ones;
- Provision of institutional fuel-efficient stoves for WFP-assisted schools.

This handbook provides guidance on fuel-efficient programming in various contexts. Triggers for implementation include:

- Large displacement contexts;
- Environmentally degraded areas;
- Situations in which lack of safe access to cooking fuel undermines food assistance, including when women risk violence to prepare food for their families; and
- Cases in which inefficient cooking methods or the selling or bartering of rations for fuel diminishes the nutritional value of WFP food.

1.2 Who is this handbook for?

This handbook is for all WFP staff and partners striving - at community, national and international levels - to make safe access to cooking fuel a reality. While it may be particularly relevant to WFP staff, the handbook can and should be used by any individuals and agencies working to ensure a coordinated, multi-sectoral strategy to cooking fuel in humanitarian, transition and development settings. The handbook is also meant as a tool to sensitize UN personnel, government officials and NGO staff for them to better take into account these issues, especially when responses are being planned in the early stages of emergencies.

1.3 Structure

The handbook has 10 chapters and 4 parts. **Parts 1 and 2** introduce the handbook and the SAFE approach respectively. They explain WFP's involvement in the initiative; how it complements WFP's mainstream food assistance activities; and how, with multi-sectoral engagement, tackling the many issues around safe access to cooking fuel can help vulnerable populations flourish in the long-term. Part 2 also lays down the multiple linkages between SAFE-related issues and food security and nutrition.

Part 3 offers a step-by-step operational guide for each stage of the programming process: assessment, design and planning, implementation, monitoring and evaluation. It also offers guidance for effective and ethical advocacy and communication on SAFE, and highlights potentials for expansion and scale-up. Tools are also provided for each stage of the programme cycle.

Part 4 describes promising practices and useful lessons from cross-sectoral interventions. Practices are analysed to determine whether they could be replicated in WFP's operations.

Part 5 contains a collection of information and reference material on fuel-efficient stoves and fuels, SAFE-related environmental and livelihood interventions, and their applicability in various settings.

1.4 How to use this handbook

This handbook has been developed to introduce the concepts that underpin SAFE, and to guide WFP and other humanitarian actors as they plan and implement SAFE programmes.

While it has been developed to be as comprehensive as possible, the handbook cannot address all possible situations. The growing debate on cooking fuel and related health, protection, and environmental concerns has prompted several organizations to develop information and guidance material. This handbook builds on and complements existing resources, while paying particular attention to issues that may be of operational relevance to WFP.

WFP has prepared a USB flash drive to accompany the handbook. This contains all the templates and tools for use in the field. The flash drive also contains some standardised tools that have been developed under the auspices of the IASC Task Force on SAFE which are mentioned in the text.

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WFP and SAFE

Part II
SAFE and food security:
conceptual and operational framework

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2.1 Background

In March 2007, the Inter-Agency Standing Committee Task Force on Safe Access to Firewood and alternative Energy in Humanitarian Settings (IASC Task Force on SAFE) was established *'to reduce exposure to violence, contribute to the protection of and ease the burden on those populations collecting wood in humanitarian settings worldwide, through solutions which will promote safe access to appropriate energy and reduce environmental impacts while ensuring accountability'*.[9]

The Task Force was co-chaired by WFP, the Women's Refugee Commission (working under the authority of InterAction) and UNHCR. Fourteen other IASC members and non-member agencies took part in creating guidance material on how to develop a coordinated, multi-sectoral fuel strategy for humanitarian settings. Participation of multiple agencies and areas of expertise at the highest inter-agency level was meant to ensure responses across multiple sectors of intervention, long-term sustainability and implementation.

The SAFE Task Force created two critical tools:

- **A Matrix on Agency Roles and Responsibilities for ensuring a Coordinated, Multi-Sectoral Fuel Response in Humanitarian Settings**.[10] This is a framework for addressing cooking fuel needs in emergency and protracted response settings. It sets out **who** (which agency and/or cluster) must do **what** (which fuel-related activities), **when** (emergency preparedness and contingency planning; acute emergency; and protracted crises, transition and durable solutions).
- The **Decision Tree Diagram on Factors Affecting the Choice of Fuel Strategy in Humanitarian Settings**[11] helps determine which cooking fuel options will be most appropriate in diverse response settings (Figure 3).

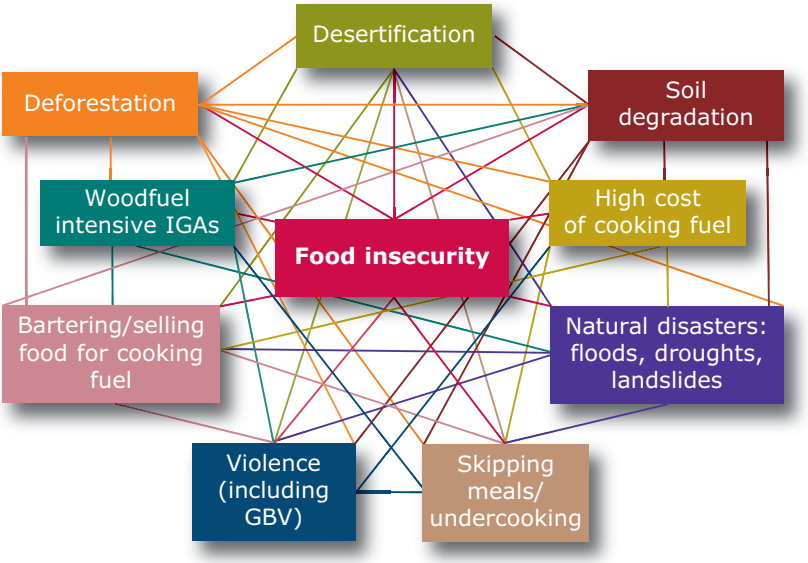
Both of these resources can be downloaded from the Task Force's website at the links given in footnotes 10 and 11, below.

9. Additional information on the Task Force SAFE can be found at www.fuelnetwork.org.
10. IASC's Matrix on Agency Roles and Responsibilities is posted online at: http://www.fuelnetwork.org/index.php?option=com_docman&task=doc_download&gid=268&Itemid=57
11. IASC's *Decision Tree Diagrams* are posted online at: http://www.fuelnetwork.org/index.php?option=com_docman&task=doc_download&gid=267&Itemid=57

2.2 Understanding the linkages between cooking fuel, food security and nutrition

Figure 1, below, is a web of the multiple SAFE-related factors affecting food insecurity. It forms the basis for WFP SAFE interventions.

Figure 1: Linkages between food insecurity and access to cooking fuel



IGA = income-generating activity; GBV = gender-based violence

The collection, supply, and use of firewood and other fuels for cooking can have a variety of harmful consequences. These include: rape and assault; respiratory diseases and other illnesses caused by burning biomass indoors; and environmental degradation. The breadth of risks reveals the multi-dimensional nature of the issue of cooking fuel. If not properly addressed, these risks can have a direct bearing on **food security and nutrition.**

Lack of safe access to cooking fuel is a **protection issue** that is closely related

to WFP's mandate. WFP is responsible for ensuring that women and children are not at risk when they gather firewood to cook food WFP provides.[12]

Competition between locals and displaced populations for scarce resources (woodfuel, animal fodder and water) can easily result in conflict and resentment.[13] In countries such as Chad, Ethiopia, Kenya and Sudan, shortage of natural resources causes friction between displaced people and host communities. Where tensions are high, firewood collection becomes a dangerous endeavour. Women must walk long distances in insecure environments to gather fuel for cooking and for living. As environments are degraded and natural resources become scarcer, the problem of access to firewood increases. The longer people remain in the bush or outline of a camp or village, the higher the risk of women being attacked or assaulted becomes.

Violence associated with access to cooking fuel also has significant opportunity costs. It may lower women's productive and reproductive capacity, reduce their ability to care for other household members, and may result in increased hunger and child malnutrition. Stigma and discrimination against survivors of sexual violence may also lead to abandonment and exclusion, with consequential loss of land, property and other assets. These costs are reflected at community and national levels. Reproductive and productive losses - compounded by the costs for health, legal, security and judicial services for rape survivors - further aggravate the economic burden arising from lack of access to appropriate household energy.

SAFE can have an important role in strengthening programmes for **livelihood promotion and environmental protection** – in other words, for longer-term food security.

The ultimate goal of WFP food assistance is to encourage longer-term food security for targeted households. However, providing high-density populations in fragile ecosystems with food that needs to be cooked - without tackling cooking fuel needs and environmental issues - may undermine the longer-term food security prospects of beneficiaries and host communities. Food security depends on sustainable use of natural resources. However, the harvesting of firewood for cooking fuel contributes to deforestation, soil erosion and loss of agricultural and grazing environments. Thus, it can seriously affect livelihood opportunities.

Deforestation and erosion of land increases the risk of natural disasters. It also degrades arable land, reducing yields. This undermines displaced people's

12. WFP (2009). *Promoting Gender Equality and the Empowerment of Women in Addressing Food and Nutritional Challenges*. Rome: WFP. WFP/EB.1/2009/5-A/Rev.1, 10.

13. UNHCR (2005). UNHCR *Environmental Guidelines*. Geneva: UNHCR.

resilience by reducing their ability to become wholly or partly food self-sufficient. In the long term, it creates further dependency on food assistance. As people, out of desperation, migrate to towns and cities for work, it also contributes to excess urbanization.

In the context of violent conflicts or natural disasters, the heavy reliance of displaced populations on firewood for both consumption and as a source of income[14] can compromise the land's carrying capacity and impede its regeneration. Even when aid agencies supply fuel, typically, they do not supply enough, and so displaced populations continue to harvest natural resources to fulfil their energy as well as income needs.

The SAFE programme aims to ensure that WFP beneficiaries can **effectively and safely cook food, maximizing nutritional intake and without adverse health impacts.** Cooking is essential: it prevents diseases, improves nutrition, and makes many foods more palatable. Yet cooking of rations is often dependent upon increasingly scarce fuel sources. Scarcity or unsafe access to cooking fuel can lead households to adopt negative eating and cooking habits. They may switch to lower quality food or eat fewer meals. Families may resort to undercooking food to save on fuel; or they may sell or barter part of their ration to procure cooking fuel. Women may have to walk for hours, often in dangerous territory, to search for and collect firewood for cooking. As a result, they have less time to prepare food and feed their children.

Boiling water insufficiently to save fuel can lead to the consumption of contaminated water and poorly prepared food. In those who are already weakened, malnourished, sick or immune-impaired, this can have life-threatening consequences. In children under five, for example, diarrhoea is a leading cause of malnutrition.

Poor households often rely on solid fuels for cooking. In Uganda, for example, over 90 percent of household energy is derived from woodfuel.[15] Indoor air pollution is one of the most widespread and insidious problems associated with the use of solid fuels for cooking. The respiratory diseases it causes lead to 1.6 million deaths in developing countries every year – 54 percent from chronic obstructive pulmonary disease, 44 percent from pneumonia, and 2 percent from lung cancer.[16] These primarily affect women and young children – those who spend the most time near the cooking hearth.

14. Studies suggest a strong correlation between a household's socio-economic status and dependency on woodfuel, both for consumption and as a source of income. The 'energy ladder' relates improvements in socioeconomic status with transitions to more sophisticated stoves and to higher quality, less polluting fuels.
15. WFP/Women's Refugee Commission/GIZ (2009). *Safe Access to Firewood and alternative Energy in Uganda: An Appraisal Report*. Rome: WFP, 5.
16. WHO (2011). *Indoor air pollution and health. Fact sheet No 292*. Geneva, WHO. Posted online at: http://www.who.int/mediacentre/factsheets/fs292/en/

Food assistance can be the main source of income for refugees, especially when laws prohibit them from leaving camps and engaging in productive activity. In these contexts, selling and/or bartering food for fuel, as well as unsafe wood gathering, are commonly-adopted strategies. Yet, as fuel sources are depleted, the cost of cooking fuel rises, eroding the real value of the food ration.[17]

Lack of safe access to cooking fuel may hinder **WFP's school meals interventions.** WFP monitors its school meals programmes and has discovered that, in some instances, when households are unable to contribute or pay for fuel as part of their community's participation in the programme, their children may be refused school meals.[18] As with every other aspect of fuel insecurity, the most vulnerable suffer. The quantity, quality and nutritional value of the food consumed by a child living in poverty may all be affected.

2.3 SAFE and food assistance strategy: strengthening food assistance programming

In 2008, a new WFP Strategic Plan marked a historical shift. WFP changed from being a food aid agency to a food assistance agency, with a more nuanced and robust set of tools to respond to critical hunger needs. The multiple challenges associated with the collection, provision and use of fuel for cooking are closely linked to WFP's mandate. If not properly addressed, they risk limiting the nutritional uptake and absorption of the food WFP distributes. The multifaceted nature of the SAFE approach enables WFP to respond to beneficiaries' immediate cooking needs, and – in line with its food assistance mandate – to contribute to their long-term food security and sustainable livelihoods. More specifically:

17. The actual value of this erosion varies from context to context and from household to household. Further investigation is needed to estimate the impact of increased scarcity of cooking fuel on the food ration.

18. As part of WFP's School Feeding programme, communities are asked to participate actively by providing, in kind or in cash, water, fuel, cooks and other goods and services. While community involvement has been shown to be an integral part of a stronger and more sustainable school-feeding programme, monitoring has highlighted that the lack of safe access to fuel can exclude the most vulnerable children from getting a school meal. According to WFP programme guidance, it is important to find the right balance between community participation and ownership and not overburdening families or communities. Introducing fees or in-kind contributions to support school feeding programmes can erect barriers to education, particularly for girls and the most vulnerable. SAFE programme should therefore take these issues into account.

1. By integrating the supply of stoves and cooking fuels into WFP's emergency response, SAFE saves lives and protects livelihoods. It reduces risks confronted by women and children in cooking WFP food.

2. By promoting non-woodfuel-intensive livelihoods and investing in afforestation and sustainable management of natural resources, SAFE mitigates environmental degradation. This ultimately contributes to disaster risk reduction and to build resilience.

3. By generating innovative technological solutions and alternative livelihood options, SAFE helps to restore and rebuild lives and livelihoods in post-conflict, post-disaster and transition situations. SAFE contributes to the safety and dignity of populations by striving to minimize the negative impacts of assistance on those who are already at risk.[20]

Two WFP policies have strengthened the organization's engagement in the SAFE initiative. The 2012 Protection Policy calls for food and livelihood assistance to contribute to the safety, dignity and integrity of those assisted by WFP.[21] And the 2009 Gender Policy[22] specifies that *addressing gender-related protection challenges* is the number one new programme priority. As part of WFP's broader efforts to promote the protection of the target population, it commits the organization to working with partners *to mobilize resources to provide fuel-efficient stoves to the most vulnerable women; and use its food assistance to support income-generating activities for women and girls.*[23]

By integrating human and environmental protection, health and nutrition, and livelihoods, the **SAFE strategy can make food assistance more effective and promote more sustainable, longer-term food security for vulnerable populations.** Through SAFE, WFP ensures that its food is cooked safely and effectively in schools[24] and households. It also reduces reliance on woodfuel-intensive livelihoods. In so doing, it helps to preserve the environment, and strengthens households' resilience to climate shocks and other adverse events.

20. WFP (2008). *WFP Strategic Plan 2008-2013.* Rome: WFP, 3.

21. WFP (2012). WFP *Humanitarian Protection Policy*. Rome: WFP. WFP/EB.1/2012/5-B/Rev. 1

22. WFP (2009), *Promoting Gender Equality and the Empowerment of Women in Addressing Food and Nutritional Challenges.* Rome: WFP. WFP/EB.1/2009/5-A/Rev.1.

23. Ibid., 10.

24. WFP's policy on institutional feeding states that feeding, and therefore cooking, at the institutional level should only be done on an exceptional and short-term basis. The main exception to this policy is the school-feeding programme. This toolkit therefore focuses on institutional-level SAFE activities related specifically to the school-feeding programme. Other exceptions may arise where communal cooking is implemented. In such cases, this toolkit would apply as guidance on how to assess, design, implement and monitor the programme.

3

Global policy and programme framework

Part III
Steps for programming

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key concepts

3.1 SAFE in emergencies, protracted crises, transitions and development

SAFE was originally designed to respond to the urgent needs of displaced populations. However, the programme's flexibility enables interventions to move beyond the emergency phase into transition, recovery and development. When cooking fuel needs are addressed at the onset of a crisis, SAFE's effects can be life-saving. By tackling aspects such as human and environmental protection and livelihoods, they also set the stage for improving food security. SAFE is well suited to complement WFP's food assistance programmes. WFP innovations, such as cash, voucher, and insurance schemes, brought about the paradigm shift from conventional emergency food aid to food assistance and long-term development.

WFP recognizes that it is impossible to separate the delivery of food from the practicalities of actually feeding a family. These include cooking, and over the years, WFP has considered several approaches, across different response phases, to reduce the adverse nutritional impacts of fuel scarcity. Existing, and long-running efforts by WFP include:

- Providing foods that require less cooking time (e.g. as split peas and lentils).
- Providing easier-to-cook rations when fuel is limited and dry food when fuel is not available. Examples include: milled cereals; pre-roasted corn-soya blend (CSB); and biscuits, as in Afghanistan, Bangladesh and Pakistan.
- Offering education and sensitization campaigns in Tanzania and Zimbabwe on fuel-saving food preparation practices. For instance, soaking pulses overnight reduces cooking time.
- Distributing and promoting fuel-efficient stoves as part of the essential package for school feeding.

Some measures can play an important role in easing the short-term burden of accessing cooking fuel. Others pave the way for effective medium-to long-term solutions. Because of logistical, security and other constraints, some activities may not be feasible in the earliest emergency stage. Nevertheless, to encourage transition and durable effects, analysis and a medium-/longer-

term perspective should be integrated into humanitarian response as soon as possible.[25]

In the medium term, SAFE ensures greater coherence between WFP's emergency and longer-term interventions and impacts. For instance, by mitigating the devastating effects of overexploitation of forest resources, SAFE could support the move from unconditional to conditional food transfers. In this example, it could integrate with WFP's Food for Asset (FFA), Food for Work (FFW), and Food for Training (FFT).

Some programme interventions require greater medium-to-long-term planning and implementation capacity. These include: environmental regeneration and sustainable management of natural resources; the introduction of fuel-efficient stoves into schools participating in school feeding programmes; livelihood diversification; and investment in alternative, renewable, and low-cost household energy and technologies.

Finally, long-term sustainability depends on coordination between sectors on fuel-related activities, as well as convergence with other relevant projects. Concerted efforts prevent duplication of work and they save money.

3.2 Urban versus rural

The IASC guidance material on SAFE was meant, first and foremost, for use with camp-based populations. However, the activities identified in the Matrix and in the Decision Tree Diagram can be easily adapted to rural, host family and/or urban settings.

Methods of assessing cooking fuel needs will be similar, regardless of whether populations are in urban, rural or camp settings. However, fulfilling their different needs is likely to require different approaches. The Decision Tree Diagrams are of utmost importance. They ensure that a fuel strategy is designed to suit particular contexts.

25. In response to the Haitian earthquake in 2010, a three-phase approach was proposed by WFP and the Women's Refugee Commission (WRC). This was designed address the immediate cooking needs – through distribution of stoves and fuel to the most vulnerable populations – while kick-starting activities to ensure efficient transition from relief to development. *WRC/WFP (2010). Cooking Fuel Needs in Haiti: A Rapid Assessment*. New York: WRC.

Urban populations, for example, are more likely to have to purchase fuel than collect it. Their vulnerability to attack by roving pastoralist militias might be lower, but their risk of transactional sex may be higher. To offset the higher price of cooking fuel, women may be forced to trade sexual favours. There may be more fuel options in urban settings than in remote rural camps, but the associated costs may well be higher. In the long term, this factor can become particularly important.

Another example is that of host families. Sometimes they are provided with, at least, partial food rations to offset the additional burden of caring for and feeding displaced people. But they are very rarely given any help towards the extra fuel required to cook for more people. In the aftermath of the Haiti earthquake, WFP and the Women's Refugee Commission discovered that some host families were caring for a dozen or more extra family members. This often doubled or even trebled the households' fuel costs, and several of them openly questioned how long they would be able to continue feeding their *guests*. A key recommendation of the resulting SAFE assessment report[26] was to provide host families with supplementary food rations, and to address their additional fuel needs.

3.3 The multi-sectoral approach

Ultimately, the *entire* humanitarian community is responsible for ensuring that cooking fuel becomes an integral part of humanitarian response, just like food or water. Cooking fuel programmes must be consistently, predictably and effectively implemented by all actors across relevant sectors.

The framework developed by the IASC SAFE Task Force focuses on eight intervention sectors:

- Camp coordination and management;
- Emergency shelter;
- Environment and natural resource management;
- Food and nutrition;
- Health;
- Information, education and communication;

26. See http://www.fuelnetwork.org/index.php?option=com_docman&task=doc_download&gid=291&Itemid=57

- Livelihoods, development and food security; and
- Protection

As part of the operationalization of the SAFE approach within WFP, emphasis was placed on five main sectors:

- Protection
- Environment
- Food and nutrition
- Health
- Livelihoods, development and food security

The following table provides an overview of all eight sectors. It outlines the problems related to cooking fuel within each of them, and proposes some possible solutions and interventions. The table illustrates how addressing the issue of cooking fuel spans many sectors and requires a collaborative approach. For instance, environmental degradation caused by unsustainable firewood harvesting has implications not only on natural resources management, but also on camp site selection, the protection of assisted populations, and livelihood strategies.

Table 1: A Matrix of Fuel-related Challenges and Responses per Sector of Intervention[27]

The Problem	Possible Solutions
Camp Coordination and Camp Management (CCCM) • Struggles over limited natural resources such as firewood can cause tensions between host governments, local communities and camp residents. • Environmental degradation resulting from unsustainable firewood harvesting can cause serious tensions between camp residents and the local community. It can also cause or worsen food insecurity. • Open cooking fires in crowded camps pose a huge health and safety risk: just one spark or untended fire can result in house fires.	• Undertake critical assessments of cooking fuel needs and existing natural resources at the initial stages of humanitarian planning. • Work with beneficiaries to establish a cooking fuel strategy that respects cultural customs and habits. • Work with local authorities to mediate in disputes. • Support host communities and engage them in confidence-building activities. • Ensure that enough cooking fuel is provided to beneficiaries when firewood is scarce. If needed and if viable, extend this support to host communities as well. • Promote safe, fuel-efficient stoves.
Emergency Shelter • If wood is scarce, timber and firewood supply may depend on the same sources. Building emergency shelter can sometimes deplete an area's firewood supply. • Local governments may restrict or ban refugees from accessing forests. • In crowded camps, open fires are a huge risk factor for house fires. • If not properly equipped, beneficiaries in colder climates may resort to burning fires inside their houses to keep warm. • The risk of respiratory infections is higher in shelters that do not have proper ventilation systems.	• Assess the wood resources available for timber and firewood, and compare availability with potential demand. • Develop and promote the use of woodless construction technologies, such as unfired, stabilized soil blocks, when building household shelters and institutional structures, such as schools, healthcare facilities and warehouses. N.B. Materials and techniques must be suited to local structural requirements. • Properly design ventilated cooking areas. These might need to be separate from the home. • Distribute fuel-saving non-food items (NFIs), such as tight-fitting lids, blankets, warm clothing or fuel-saving domestic heating devices.

(continued...)

27. This table is freely adapted from IASC TF SAFE in Humanitarian Settings (2009). *Matrix on Agency Roles and Responsibilities for Ensuring a Coordinated, Multi-Sectoral Fuel Strategy in Humanitarian Settings*. New York, IASC.

(...continued from page 25)

Table 1: A Matrix of Fuel-related Challenges and Responses per Sector of Intervention

The Problem	Possible Solutions
Environment and Natural Resource Management • During war or after natural disasters, the sudden arrival of large concentrations of people in marginal, semi-arid lands can rapidly deplete the land's carrying capacity and diminish regeneration possibilities. • Unsustainable, large-scale harvesting of forest resources for cooking damages an already fragile environment, and it forces women to walk further, exposing them to further risks. • Returning home poses another challenge. The reconstruction of houses, buildings and fences, etc., uses either timber or mud bricks that must be fired in wood-burning kilns.	• Support the direct provision of cooking fuel. • Promote non-wood shelter construction materials, such as unfired, stabilized soil blocks, where applicable. • Develop and promote amongst beneficiaries fuel-saving devices, such as fuel-efficient stoves, and alternative fuels. • Ensure that firewood collection is undertaken in the most sustainable way possible. Teach sustainable harvesting techniques and, if needed, introduce controls on the frequency or location of collection. • Develop and promote environmental protection and conservation activities. These might include planting wood-lots and undertaking reforestation programmes.
Food and Nutrition • Scarcity of firewood results in negative coping mechanisms. Examples include undercooking meals, which increases the risk of foodborne diseases, and skipping meals altogether, which exacerbates malnutrition. • People often sell their food rations to raise money to buy cooking fuel.	• Provide precooked or quick-cooking foods, such as ready-to-eat meals, during the earliest stages of emergency response. Later on, provide food that is familiar to beneficiaries. • Promote and provide fuel-efficient stoves. • Provide training and clear instructions on fuel-efficient cooking techniques. This could include pre-soaking beans, using tight-fitting lids, and sheltering cooking fires from the wind. • Encourage institutions, such as schools and hospitals, to use fuel-efficient stoves for catering purposes.

Table 1: A Matrix of Fuel-related Challenges and Responses per Sector of Intervention

The Problem	Possible Solutions
Health • Women and children are repeatedly exposed to noxious smoke and indoor air pollution (IAP) from cooking fires. This makes them prone to respiratory illnesses such as pneumonia. • Shelters are often poorly ventilated and so smoke lingers indoors. Often, families cook and sleep in the same room, and this increases their exposure to toxins and health risks. • When firewood is not available, people cannot boil water and they undercook food or eat it raw. Thus, they risk illnesses like cholera, and foodborne diseases and malnutrition. • Mistakes when tending cooking fires frequently result in burns and scalds.	• Advocate for the use of cleaner-burning cooking fuels and stoves. Explain that this will lead to efficiency and safety improvements. • Promote the design and building of better-ventilated shelters or safe, outdoor cooking spaces. • Provide technical advice to camp managers, shelter actors and other partners on the positive health and safety impacts of new fuel-efficient technologies.
Information, Education and Communication (IEC)[28] • Communities are less likely to adopt beneficial new technologies if they do not understand how to use fuel-efficient stoves and alternative fuels, and are unfamiliar with food rations and fuel-saving cooking techniques. • In some settings, girls miss school or other educational opportunities because they must collect firewood or tend to household chores while their mothers collect fuel. • School feeding programmes typically use wood, often on inefficient open fires. In some cases, families are required to contribute firewood, and children may be refused classes or meals if they cannot find enough wood to bring to school.	• Teach fuel-efficient cooking practices in schools, community centres or at food distribution points. Include advice on the construction and use of fuel-efficient stoves, and on fuel-saving cooking techniques like pre-soaking beans, sheltering cooking fires from the wind, and only using dry wood. • Spread awareness about the benefits and proper use of fuel-efficient stoves or cooking fuel alternatives. Emphasise the benefits of these techniques for children attending school. • Encourage school feeding programmes to use fuel-efficient stoves.

(continued...)

28. The SAFE task force combined traditional, school-based education and the information, education and communication (IEC) sectors into one.

(...continued from page 27)

Table 1: A Matrix of Fuel-related Challenges and Responses per Sector of Intervention

The Problem	Possible Solutions
Livelihoods, Development and Food Security • Women and girls spend a great deal of time securing cooking fuel. This limits their ability to engage in safer, more productive activities, including earning an income or attending school. • Often, refugees are not allowed to work legally. This forces women to become dependent on selling firewood to earn an income. • Most common income-generating activities – such as selling firewood or charcoal, subsistence agriculture, brewing alcohol and cooking food to sell – depend on natural resources. • Fuel costs can consume as much as 40 percent of meagre household incomes.	• Develop safer, more sustainable, market-based jobs to reduce dependence on woodfuel-related income-generating activities (IGAs). Adopting alternative fuels or energy technologies can create new jobs in fuel-efficient stoves or briquette production, reforestation and other environmental management.
Protection • Women and children must travel long distances to find enough firewood to cook meals for their families. This increases their exposure to gender-based violence (GBV), especially rape and harassment. • For many families, selling or trading some of their food rations is the only way to earn an income. This increases their risk of malnutrition, and tensions may escalate within the family, erupting into domestic violence. • Physical protection stemming from the presence of peacekeepers or civilian police is often very limited. Women and girls are vulnerable to attack if they venture outside the camp. • Uncleared landmines are a hazard to firewood collectors, and limit access to essential resources such as firewood.	• Undertake an assessment early in the emergency response to define the particular protection concerns. • Include women and girls in the development of all types of protection strategies. • Agencies with a protection mandate should arrange for transport, patrols or escort systems during firewood collection. Alternatively, they can advocate for the deployment of peacekeeping escorts. • Spread awareness of the risks related to firewood collection and help preventative measures to be put in place. • Depending on the circumstances, provide enough cooking fuel, support the development and production of alternative fuels, and promote awareness about mined areas and alternative collection routes.

3.4 Coordination efforts and mechanisms

The ramifications of *not* working cross-sectorally can be severe. One such example is firewood patrols – whereby peacekeeping or other security forces escort women to firewood collection sites to protect them from assault en route or on site. If not properly managed, these patrols can cause environmental damage and, in worst-case scenarios, this may spark retribution attacks by local communities.

Another example would be distributing fuel-efficient stoves without addressing the economic impacts on women who rely on income from collecting and selling firewood. Unless alternative opportunities are provided, the loss of livelihoods these women face may create new risks that offset the positive protection and environmental impacts of introducing the stoves.

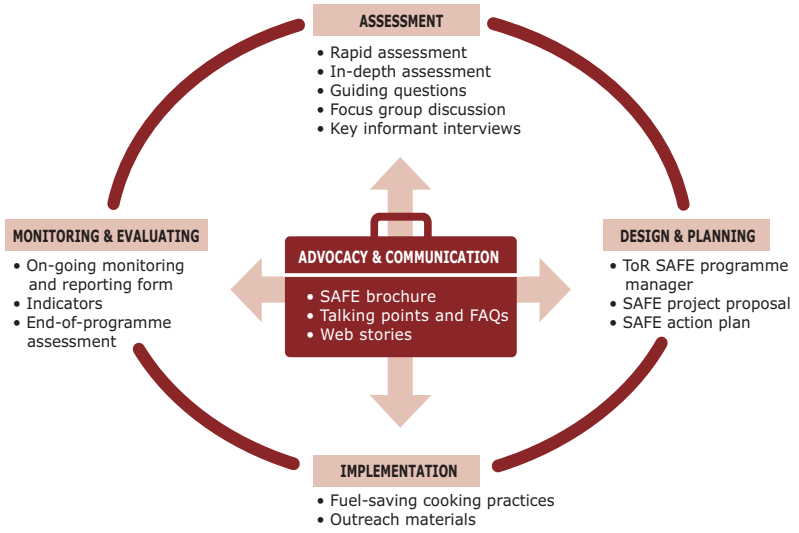
Given the programme's multi-sectoral nature, the SAFE Task Force made a conscious decision not to advocate for a lead agency for cooking fuel, or for a Household Energy cluster. However, the lack of a single authority can be a barrier to ensuring a predictable and consistent response. It is critical that actors coordinate, work in partnership, communicate across sectors and share best practices so that they can deliver an integrated response.

Experience so far has been encouraging. WFP has successfully acted as a catalyst, leveraging and mobilizing organizations and expertise towards better coordinated and more effective responses to assisted populations' cooking fuel needs. In Karamoja, Uganda, the United Nations Population Fund (UNFPA) and WFP are working together on sensitization and capacity-building on gender-based violence (GBV). In Ethiopia, UNHCR and WFP are promoting fuel-efficient stoves. In Northern Sri Lanka, UNICEF and WFP are establishing stove production centres to reduce communities' risk from mines.

3.5 SAFE in the programme cycle

Figure 2, below, gives a quick overview of the programme cycle and SAFE-related tools available for each phase. Advocacy and communication is central and cuts across every phase of the programme cycle.

Figure 2: SAFE in the programme cycle



4

Assessment

Part III
Steps for programming

4

key concepts

4.1 Assessing cooking energy needs

The term 'cooking energy needs' refers to the energy required by a household, institution, or community to plan, prepare and cook meals. Assessments must consider fuel, the stove and cooking equipment, as well as cooking behaviours and practices.

SAFE programmes must be based on a sound understanding of the cooking needs and options in the context under analysis. It will be necessary to gather the following information.

- The type of cooking fuel used.
- Where fuel is sourced, how much is available, and whether obtaining it from the current sources causes environmental damage/degradation.
- The risks and challenges people face when sourcing and using fuel; the population most at risk; other uses of fuel, such as selling it to generate income.
- Which fuel interventions are already in place, and what their impacts are.

The context analysis can also provide insights into traditional cooking practices, beliefs and taboos, and users' preferences. Collecting and verifying information can be a laborious, costly and time-consuming exercise. At times, it may require specially trained technical staff. Accurate and credible assessment is critical to the design, planning and implementation of an integrated and effective cooking fuel strategy.

In emergencies, WFP is often among the first to deploy. Often, it is also the first to analyse the nature and dimension of the crisis and its impacts on the affected population. Thus, it rests on WFP to ensure that possible challenges associated with the collection, provision and use of cooking fuel are an integral part of any assessment.

WFP is the lead of the Logistics cluster and co-lead of the Food Security cluster. It is therefore in a unique position to ensure that proper planning is in place to ensure that beneficiaries can cook food distributed during the initial emergency response. Coordinating with Contingency Planning and Emergency Preparedness will ensure that cooking fuel issues are integrated into emergency preparedness planning.

4.2 Proposed approach

As a first step, existing location-specific data, literature, reports and documents[29] on SAFE-related matters should be explored to identify ongoing efforts and activities. It is important, also, to triangulate and verify information through other sources and methods. The issue of cooking fuel spans several sectors. However, there is usually little, if any, consultation, coordination and information-sharing among response actors during the design, planning and implementation of interventions.[30]

Review of secondary data also reveals the extent to which collection, provision and use of cooking fuel may be an issue in the context under consideration. Equipped with this information, it becomes clear whether a more in-depth assessment is needed and relevant.[31]

Information on fuel for cooking can be gleaned from existing assessments. Both WFP's *Emergency Food Security Assessment* (EFSA) and the *Comprehensive Food Security Vulnerability Analysis* (CFSVA) may be useful. These typically ask households which cooking fuel they use, how much they spend on it, and whether they are reliant on forest products[32] for income.

The *Standardised School Feeding Survey* (SSFS)[33] and monitoring reports provide information on the type and quantity of fuel contributed to schools by the community. They also cover issues regarding fuel provision. A new tool, the *Cost Analysis of School Feeding Programmes*, assesses the costs of these programmes to the assisted community. It does so by estimating the financial value of members' fuel contributions and voluntary work.[34]

29. A list of key resources can be found in Part 5 in the Resources section.
30. For example, a 2008 review of FES programming across Darfur revealed that there was no cross-sectoral or inter-agency consultation at all during the design and/or implementation of projects. Source: ProAct. Network (2008). *Assessing the Effectiveness of Fuel-Efficient Stove Programming – A Darfur-wide Review*. Nyon, Switzerland, ProAct Network.
31. For more detailed guidance on how to conduct a situation analysis refer to WFP (2009) *Emergency Food Security Assessment Handbook*. Rome, WFP, 152 and to WFP (2009) *Comprehensive Food Security and Vulnerability Analysis Guidelines*. Rome: WFP. See also WFP (2012) *Protection in WFP's Operations – A Basic Guide to Mainstreaming Protection in WFP's Programme Cycle*. Rome: WFP.
32. For example, firewood, charcoal and fodder.
33. SSFS consists of both a baseline survey and a follow-up survey on educational, nutritional and household-level indicators. It also covers data on the schooling environment and complementary interventions.
34. WFP (n.d.). *WFP Manual: School Feeding Cost Tools*. Rome, WFP.

Although WFP's *EFSA Handbook*, the *CFSVA Guidelines*[35] and related questionnaires refer to cooking fuel, it is often up to Country Offices to make sure that this issue is included in the assessment process. It may also fall on them to decide whether more in-depth data gathering is needed. Both handbooks provide plenty of guidance on how to interpret data. More detailed advice on data analysis can be found in Section 5.1, below.

Among others, the following key SAFE issues need to be assessed.

- The percentage of household income spent on cooking fuel.
- The percentage of food sold or bartered for fuel.
- The percentage of household income derived from the exploitation of natural resources. Firewood and charcoal are especially important. Seasonal variation should also be investigated, if possible.
- Protection risks. These include sexual and other types of assault during firewood collection, transactional sex, and exchange of food for fuel.
- The local price of firewood, charcoal and other cooking fuel.
- How much time is spent collecting firewood and producing charcoal. Both the number of hours spent on trips and the frequency of collection should be evaluated.

4.3 Ethical and safety considerations

The highly sensitive nature of most protection issues associated with access to cooking fuel makes any data-gathering exercise on this topic challenging. Although collecting data on gender-based violence (GBV) is mostly beyond the scope of WFP's mandate, the following insights may be helpful when dealing with such issues.

People are often reluctant to confront and describe painful, difficult experiences. Fear of reprisal, as well as trauma, cultural taboos, stigma and shame, may prevent survivors of violence from disclosing their experience. Confidentiality and sensitivity are essential. Violating informants' rights to

35. Additional details on how cooking fuel is integrated in existing WFP assessment tools and methodologies can be found in WFP (2009) *Comprehensive Food Security and Vulnerability Analysis Guidelines*. Rome, WFP, and in WFP (2009) *Emergency Food Security Assessment Handbook*. Rome, WFP.

privacy, failing to respect certain cultural values or traditions, or excluding certain groups may result in informants being harmed again. Data collection must be informed by a sound understanding of the context within which it is to take place. It must also be conducted in accordance with the following ethical and safety principles and standards.

1. The **safety** of those involved in the gathering exercise is of paramount concern. It should be both guaranteed and continuously monitored.

2. **Confidentiality** should be ensured at all times.

3. Those providing information must give **informed consent**. They must fully understand the purpose of the exercise, the types and intended uses of the data that are going to be collected, and the potential risks of participating in the study (if any). They must also be reassured that if they choose not to take part there will be no repercussions. The consent procedure equips informants with the information they need to decide whether to participate. It also ensures that consent, if given, is provided voluntarily and not under duress.[36]

4. **Benefits** to the participants should outweigh the risks they may face by contributing to the survey/information gathering.

5. Before any data-gathering exercise takes place, researchers should ensure that **referral services** are available for survivors of GBV and other serious abuses and violations. These include medical, psychosocial, legal and security support.

Special care should be taken when selecting, training and supporting data collection team members. Interviewers should at least have a basic understanding of protection and GBV, its causes and consequences, and its scope in the context under investigation.

Although interviews and surveys do not provide support to respondents, they may provide an opportunity for respondents to access information on GBV services and protection. Therefore, data collectors should be equipped with information that they can pass on to interviewees. This should cover support services (medical, psychological, economic, and judicial), preventive services, and general information about GBV and safety.

36. More information on the ethical and safety measures that should be taken when doing research on GBV can be found in WHO (2007). *WHO Ethical and Safety Recommendations for Researching, Documenting and Monitoring Sexual Violence in Emergencies*. Geneva: WHO.

Ideally, the team should include both females and males so that they can reach out to all within the targeted population. Generally speaking, women and girls tend to prefer talking to other women. Great care should be taken when asking men about their experiences of GBV. Comparatively little research has been done on the issue of male-directed sexual violence, not least because of the cultural taboos surrounding it.

4.4 Setting the baseline

The SAFE logical framework (see 5.4.5) is the starting point for setting the baseline for a SAFE project. The framework suggests a variety of different objectives. The assessment findings will determine which ones a project should focus on. Initial household and community assessments, as well as information collected from key stakeholders and secondary data sources, can be used as the benchmark against which the intended changes can be measured. The same process applies at community and school levels.

Identification of the baseline stove is another integral part of the assessment. Depending on the context, this might be a traditional three-stone fire or simple mud stove, or it might be a metal tri-pot or simple charcoal stove. Current cooking devices are assessed for fuel consumption, emissions, heat transfer, cooking time and safety, etc. Benefits of alternative, fuel-efficient devices can then be calculated.

It is assumed that the SAFE programme will reduce exposure to the risk of gender-based violence during firewood collection. People will collect firewood less often if they adopt fuel-efficient stoves, alternative sources of domestic energy and safer livelihoods. This is why GBV information should be included in the baseline. Ideally, collection of baseline information should be done by agencies such as UNFPA and UNHCR, or by specialized NGOs. Sometimes, however, specific expertise is not available and information is scarce. Because GBV is such a sensitive issue, the precise incidence of GBV in a given area may often be unknown. Underreporting is another major challenge.

To address these issues in Uganda, and to set a baseline against which to measure SAFE's results, WFP partnered with UNFPA and Samaritan's Purse. These agencies carried out a rapid assessment of GBV during firewood collection in areas targeted by the programme.

Below are two lists of key SAFE-related indicators to be investigated. The first relates to GBV; the second to school feeding. It is not necessary to produce a

stand-alone baseline study for each of the topics. If relevant, questions should be integrated into existing baseline surveys. A case study presenting the results of a GBV baseline assessment conducted in Uganda is provided in Box 1 below.

The following are the main indicators for GBV-related issues to be included in a SAFE project baseline:

- The amount of cooking fuel consumed
- Frequency of firewood collection trips, distance covered (km) and time spent away from the household to collect wood
- Other reasons for going to the bush (e.g. hunting or gathering for food)
- Whether firewood is used mainly for household consumption or to raise income
- The main forms of violence experienced during firewood collection (e.g. sexual violence/rape, humiliation, intimidation, physical attack, and so on), and their incidence
- Which populations are most at-risk from violence; where they are attacked, when (times of the day), and why
- Who the perpetrators of violence are
- Who people talk to about the risks they face
- Existing coping mechanisms: what people do to reduce the risks they face, and to avoid the frequency of attacks

The following are the main indicators for school feeding-related issues to be included in a SAFE project baseline:

- The type of cooking fuel used
- The composition of the food basket, and food commodities that require long cooking time
- How much time is spent cooking
- How much fuel is used per month
- How much fuel the school purchases and how much it costs them per month
- What proportion of fuel used is purchased directly by the school
- Education indicators: enrolment, attendance and drop-out rates
- The percentage of firewood or other fuel purchased by the community for use by the school
- How much fuel contributions cost the community per month
- The percentage of firewood/fuel *collected* by community for use by the school
- How much time (in hours) the community spends collecting fuel for the school
- What the equivalent salary (at local minimum wage rate) would be for the community's collection work

- The protection issues linked with collection and supply of cooking fuel in schools
- The perceived health impacts on cooks of unclean cooking fuel
- The level of awareness of the dangers of inhaling fumes from unsafe burning of biomass

Box 1: Establishing a gender-based violence baseline in Uganda

In 2010, two GBV-specific baseline surveys in Moroto and Kotido districts in Uganda investigated the linkages between GBV and firewood collection.

In the Karamoja region of Uganda, women and girls are the primary firewood collectors. Firewood is used for cooking and fencing, and some is sold to finance the purchase of food and other basic goods. Without other livelihood options, the sale of firewood remains the main source of income, especially in Moroto.

Below is a summary of the survey's key findings.

- **Age group.** Women and girls aged 15-40. Men also face danger and violence when escorting women. Some may even be killed if they try to protect them.
- **Frequency of collection trips.** Every day, six days a week.
- **Time spent.** 4-9 hours a day, round-trip.
- **Distance to collection areas.** 2-25 kilometres.
- **Main perpetrators.** Warriors, idle youth or 'enemies' from other ethnic groups.
- **Main forms of violence.** Rape, physical assault, abduction, robbery, killing, beating, humiliation (e.g. undressing), intimidation and sexual harassment.
- **Main coping mechanisms.** Moving in groups; being escorted by men; avoiding places where attacks might occur; and moving early in the day. Songs are sung out loud; an alarm might be sounded at the outset, using well-known words instructing enemies to give way. Sometimes women simply avoid going to the bush to collect firewood for a while.
- **Main reporting mechanisms.** Elderly women who experienced the same violence in the past counsel younger ones. Official mechanisms are provided by hospitals, the local council, community elders, police, the sub-county chief and even army detachments. Reporting is made difficult by survivors' fear of stigma and reprisal, and by their guilt and shame. Communities identified bureaucratic bottlenecks in official reporting systems and said that these hinder referral.

4.5 Tools

This section contains a series of tools intended to guide the collection and analysis of information. Data gathered will help inform decisions on the most appropriate type of intervention, its scale and relevance in the context under consideration. WFP and the Women's Refugee Commission's inputs to the IASC Task Force on SAFE contributed to the development of these tools. Operationalization of SAFE in the field has helped to refine them. The tools are indicated for use at country and field levels. They provide a uniform methodological basis, and ensure compatibility, comparability and consistency among the data gathered across different contexts.

There are two basic levels of analysis: rapid and in-depth assessments. Information for both can be compiled from primary and secondary sources. Primary sources include direct observations and discussions with agency staff, local authorities, partner organizations, community members and any other relevant stakeholders. Secondary sources include reports, project documents and pre-existing knowledge of the context.

The rapid assessment is intended for use in fast-changing contexts, where results are needed quickly for immediate actions to be taken. Questions are generally targeted to relevant clusters, such as Food Security, Protection, Shelter, Non-food Items (NFIs); to cooperating partners and other organizations already working on cooking fuel-related issues; and to beneficiaries. In-depth assessment, on the other hand, is undertaken when more time, access and resources are available, and when detailed data collection on the subject is deemed relevant and necessary. In both cases, the multi-sectoral nature of cooking energy systems makes the engagement of multiple actors critical for effective response programme.

The following tools include sets of questions to guide staff and partners who conduct focus group discussions and key informant interviews. Focus groups and interviews are intended to complement the information collected through the rapid and/or comprehensive assessments. Ideally, the proposed tools should be used in combination with one another to ensure triangulation of information and a comprehensive overview of the situation in the context under analysis.

Finally, there may be times when a specific SAFE assessment is needed and feasible. More often, however, SAFE issues will need to be included into other assessments such as the CFSVA and EFSA.

4.5.1 Rapid assessment of cooking energy needs

The rapid assessment tool is intended for fast changing contexts, where results are needed quickly to inform immediate actions. Questions are generally targeted to:

- Relevant clusters such as Food Security, Protection, Shelter, Non-food Items (NFIs), etc.;
- Cooperating partners and other organizations already working on cooking fuel-related issues; and
- Beneficiaries.

Rapid assessment tool: cooking energy needs first phase of emergencies

DATE, LOCATION: _____

INTERVIEW CONTEXT: _____

COOKING AND FOOD

1. Does the majority of the population have the necessary tools to cook (fuel, pots, etc.)? [Yes/No] Is the amount of cooking fuel being provided/collected sufficient? [Yes/No]

2. How is cooking organized within the camp/settlement?
Is the population cooking ❑ indoors or ❑ outdoors?

❑ Wet feeding
❑ Shared cooking spaces
❑ Individual cooking
❑ Other, please specify _____

3. Are there foreseen problems with cooking practices in the camp/settlement? *[For example shared cooking is not acceptable; rainy season is approaching and beneficiaries are cooking outdoors; safety problems due to lack of allocated cooking space]*

4. What type(s) of foods are being cooked at present? Is the population familiar with these foods? If not, what type of food would be more acceptable/easier to cook?

FUEL AND STOVE

5. What type of cooking fuel did the assisted population use prior to the crisis? *[Pick the three most used and number them in order of usage. For example, if firewood was the most commonly used fuel put 1 next to it]*

- ❏ Firewood/branches
- ❏ Charcoal
- ❏ Other biomass fuels (agricultural waste, shrubs, roots, etc.)
- ❏ Liquefied Petroleum Gas (LPG)
- ❏ Kerosene
- ❏ Other, please specify _____

6. How was cooking fuel acquired prior to the crisis?

- ❏ Bought at the market
- ❏ Given by the government/humanitarian agency or other donor
- ❏ Collected
- ❏ Bartered
- ❏ Other, please specify _____

7. Which type of cooking device/stove[37] (if any) did the assisted population use prior to the crisis? *[List and briefly describe each one that applied, beginning with the one most used]*

_____

_____

_____

8. How was the stove that was used prior to the crisis acquired?

- ❑ Bought at the market
- ❑ Given by the government/humanitarian agency or other donor
- ❑ Bartered
- ❑ Built it myself
- ❑ Constructed by an artisan
- ❑ Other, please specify _____

9. What type/s of cooking fuels does the assisted population use at present? *[Pick the three most used and list them in order of usage. For example, if firewood was the most commonly used fuel put 1 next to it]*

- ❑ Firewood/branches
- ❑ Charcoal
- ❑ Other biomass fuels (agricultural waste, shrubs, roots, etc.)
- ❑ Liquefied Petroleum Gas (LPG)
- ❑ Kerosene
- ❑ Other, please specify _____

10. How is cooking fuel currently acquired?

- ❑ Bought at the market
- ❑ Given by the government/a humanitarian agency or other donor
- ❑ Collected
- ❑ Bartered
- ❑ Other, please specify _____

37. This encompasses any cooking device as used by the targeted population, including a tripots or a three-stone fires.

11. If fuel is collected, who collects it and where do they collect it from?

12. Which type of stove (if any) is the assisted population using at present? *[Briefly describe each one that applies, list them in priority order]*

13. How was the stove people currently use acquired?

- ❑ Bought at the market
- ❑ Given by the government/humanitarian agency or other donor
- ❑ Bartered
- ❑ Built it myself
- ❑ Constructed by an artisan
- ❑ Other, please specify _____

14. Which cooking utensils are used? *[Describe the number, size, shape and material of cooking pots used in the household and their purposes]*

15. What fuel(s)/devices are being used in institutional settings at present?

- ❑ Schools
- ❑ Clinics/hospitals, etc.
- ❑ Emergency/therapeutic feeding centres
- ❑ Other, please specify _____

[Briefly describe the type of stove/fuel for each of these institutions, as applicable]

_____
_____
_____

16. For which, if any, other purposes is cooking fuel (household energy) typically needed/used?

- ❑ Heating _____
- ❑ Lighting _____
- ❑ Other _____

PROTECTION

17. Are people experiencing problems with the current source of fuel? [YES/NO] *[If yes, check all those that apply listed in order of concern. For example if safety is the primary concern put 1 next to it]*

- ❑ Do not know how to use it
- ❑ High price
- ❑ Poor quality
- ❑ Safety
- ❑ Fuel shortages, please specify _____
- ❑ Long distance to collect it
- ❑ Competition between groups for access to fuel
- ❑ Other, please specify _____

18. If safety is the primary protection concern, what is the cause?

- ❑ Ongoing conflict near the settlement or fuel collection area
- ❑ Landmines, animals, dangerous terrain, etc.
- ❑ Sexual assaults
- ❑ Threats from army/police personnel/border guards, etc.
- ❑ Threats from militia
- ❑ Threats from bandits or opportunists
- ❑ Threats from the host population or opposing group
- ❑ Other, please specify _____

19. What natural resources people do have access to in the immediate vicinity? *[Check all that apply]*

- ❏ Firewood
- ❏ Dung
- ❏ Straw/agricultural residues
- ❏ Grasses/other biomass
- ❏ Other, please specify _____

20. What is the status of roads, bridges, means of transportation and the level of security in the area(s) of displacement and surrounding areas? *[Please specify URBAN/PERIURBAN/ RURAL]*

4.5.2 In-depth assessment of cooking energy needs

In-depth assessments are undertaken when more time, access and resources are available. They might be needed if, for example, the findings of other assessments do not provide enough detail, or if a rapid assessment suggests a SAFE project would be relevant.

In-depth assessment tool: cooking energy needs

DATE, LOCATION: _____

INTERVIEW CONTEXT: _____

FUEL AND STOVE

1. What type/s of cooking fuel does the assisted population use? *[Pick the three most used and list them in order of usage. For example, if firewood is the most commonly used then put 1 next to it]*

- ❏ Firewood/branches
- ❏ Charcoal
- ❏ Other biomass fuels (agricultural waste, shrubs, roots, etc.)
- ❏ Animal dung
- ❏ Liquefied Petroleum Gas (LPG)
- ❏ Kerosene
- ❏ Ethanol
- ❏ Other, please specify _____

2. Did they use different cooking fuel/s in the past? YES/NO

3. How is cooking fuel acquired?

- ❑ Bought at the market
- ❑ Given by the government/a humanitarian agency or other donor
- ❑ Collected
- ❑ Bartered
- ❑ Other, please specify _____

4. Is it different than in the past? YES/NO

5. If fuel is collected, who collects it? *[Check the two most common]*

- ❑ Primarily women and girls
- ❑ Primarily children
- ❑ Primarily men
- ❑ Both men and women

6. Is this different from in the past? YES/NO

7. If fuel is collected, where it is collected from?

8. Is the amount of fuel being obtained/distributed sufficient? [YES/NO]

9. For which, if any, other purposes is cooking fuel (household energy) typically needed/used? *[Please specify which fuel you are referring to]*

- ❑ Heating _____
- ❑ Lighting _____
- ❑ Other _____

10. Which type of cooking device/stove[38] is the assisted population using? *[Briefly describe each one that applies and list them in order of priority]*

- ❑ Type 1_____
- ❑ Type 2_____
- ❑ Type 3_____
- ❑ Type 4_____

11. How was the stove acquired?

- ❑ Bought at the market
- ❑ Given by the government, a humanitarian agency or other donor
- ❑ Bartered
- ❑ Built it myself
- ❑ Constructed by an artisan
- ❑ Other, please specify _____

12. Which cooking utensils are used? *[Describe the number, size, shape and material of cooking pots used in the household and their purposes]*

13. Have any FES programmes (distribution/production, etc.) been implemented in this area in the past? [YES/NO]
If yes, by whom? Lesson/s learned:

38. This encompasses any cooking device as used by the targeted population, including a tripot or a tree-stone fire.

14. Is an FES programme (distribution/production, etc.) being implemented in this area at present? [YES/NO]
If yes, by whom? *[Briefly describe the programme]*

15. What fuel(s)/devices are being used in institutional settings?

- ❏ Schools
- ❏ Clinics/hospitals, etc.
- ❏ Emergency/therapeutic feeding centres
- ❏ Other, please specify _____

[Briefly describe the type of stove/fuel for each of the following institutions, if applicable]

_____
_____
_____

16. How was the institutional stove acquired? *[Please specify which stove you are referring to]*

- ❏ Bought at the market
- ❏ Given by the government, a humanitarian agency or other donor
- ❏ Bartered
- ❏ Constructed by an artisan
- ❏ Other, please specify _____

PROTECTION

17. Are people experiencing problems with the current source of fuel? [YES/NO] *[If yes, check all those that apply listed in order of concern. For example if safety is the primary concern put 1 next to it]*

- ❑ High price
- ❑ Poor quality
- ❑ Safety
- ❑ Fuel shortages, please specify _____
- ❑ Long distance to collect it
- ❑ Competition between groups for access to fuel
- ❑ Other, please specify _____

18. If safety is the primary protection concern, what is the cause?

- ❑ Ongoing conflict near the settlement/fuel collection area
- ❑ Landmines, animals, dangerous terrain, etc.
- ❑ Sexual assaults
- ❑ Threats from army/police personnel/border guards, etc.
- ❑ Threats from militia
- ❑ Threats from bandits or opportunists
- ❑ Threats from host population or opposing group
- ❑ Other, please specify _____

19. Is there any activity in place for the protection of the assisted population in this area? [YES/NO] If yes, by whom?

MARKET

20. Are cooking stoves for sale at the local market, or is it possible to have a stove built by a local artisan? *[List the different types of stove]*

- ❑ Type 1: _____
- ❑ Type 2: _____
- ❑ Type 3: _____
- ❑ Type 4: _____

21. How much do they cost? *[List prices in both local currency and US$ of each type listed above]*

- ❑ Cost type 1: _____
- ❑ Cost type 2: _____
- ❑ Cost type 3: _____
- ❑ Cost type 4: _____

22. Where are the markets located?

- ❑ In the camp/settlement
- ❑ In the nearby village/town
- ❑ In a more distant town
- ❑ Other, please specify _____

23. How do people move to the market and back?

- ❑ Walk
- ❑ Bicycle
- ❑ Animal (donkey, camels, etc.)
- ❑ Ride from others (not paid)
- ❑ Paid ride (any mean of transport people have to pay for)
- ❑ Other, please specify _____

24. What types of cooking fuel are available in the market? *[Check all that apply]*

- ❑ Firewood/branches
- ❑ Charcoal
- ❑ Other biomass fuels (agricultural waste, shrubs, roots, etc.)
- ❑ Liquefied Petroleum Gas (LPG)
- ❑ Kerosene
- ❑ Ethanol
- ❑ Other, please specify _____

25. How much does the fuel cost in high/low seasons? *[List prices in both local currency and US$ of each type listed in the question above]*

- ❑ Cost charcoal (specify unit): _____
- ❑ Cost firewood/branches (specify unit):_____
- ❑ Cost other biomass fuels (specify type and unit):_____
- ❑ Cost Liquefied Petroleum Gas (LPG) (specify unit):_____
- ❑ Cost Kerosene (specify unit):_____
- ❑ Cost other (specify unit):_____

ADDITIONAL QUESTIONS

26. Does the population cook ❑ indoors or ❑ outdoor?

27. Describe the kitchen design and ventilation *[For example, if the kitchen is indoors, is it separate from other living and sleeping areas? Does the kitchen have a chimney and/or a window? How much smoke is there in the kitchen?]*

28. What are the health implications of the use of cooking fuel? *[Check all that apply]*

- ❑ Acute respiratory infections
- ❑ Eye infections
- ❑ Asthma
- ❑ Allergies
- ❑ Fire hazards
- ❑ Foodborne diseases/diarrhoea due to insufficient cooking/boiling
- ❑ Other, please specify _____

29. Are there any cultural taboos regarding cooking practices/foods? *[For example, shared cooking not acceptable]*

30. At what time/s of day and how often in a day are meals cooked? How long does the average meal take to cook?

31. Which natural products can people access in the immediate vicinity to use as fuel for cooking? *[Check all that apply]*

- ❑ Firewood
- ❑ Dung
- ❑ Straw/agricultural residues
- ❑ Grasses/other biomass
- ❑ Other, please specify _____

32. What are the laws/regulations regarding the displaced populations' access to/ability to use/harvest from local land? *[For example, are they allowed to collect firewood? Are they allowed to produce charcoal? Are they allowed to sell firewood or charcoal?]*

33. What is the status of roads, bridges, means of transportation and the level of security in the area(s) of displacement and surrounding areas? *[Please specify URBAN/PERIURBAN/RURAL]*

34. Is there a potential for medium- or long-term environmental degradation caused by current cooking fuel collection/use practices? [YES/NO]
If YES, are any measures in place to mitigate this risk? *[Check all that apply]*

- ❑ Reforestation activities
  - By whom? *[Government/host community or similar; humanitarian/development agency or similar; affected population (including as Cash/Food for Work activity); other?]*

❑ Wood-lot planting/management
• Managed by whom? *[Government/host community or similar; humanitarian/development agency or similar; affected population (including Cash/Food for Work activity); other?]*

❑ Training on sustainable harvesting practices
❑ Efforts to reduce fuel consumption, please specify_____
❑ Other, please specify _____

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

36. Are any livelihood activities specifically fuel-intensive? *[Check all that apply]*

❑ Sale of firewood
❑ Wood/timber-based construction activities
❑ Brick-making
❑ Charcoal-making
❑ Brewing
❑ Other, please specify _____

37. What are the main coping mechanisms to which people resort to address the issue of fuel scarcity? *[Check all that apply]*

❑ Food selling/bartering
❑ Undercooking to save on fuel
❑ Skipping meals
❑ Eating less/less quality food
❑ Other, please specify _____

4.5.3 Guiding questions: focus group discussion[39]

This tool provides guidance on how to conduct focus group discussions with beneficiaries to obtain information that can be used to better tailor interventions. It should be used in conjunction with other assessment tools such as the in-depth or the rapid assessment, and the guiding questions provided below, which are targeted to other key stakeholders. While comprehensive, the questions below are not necessarily meant to be followed thoroughly and systematically. Prioritization can and should be made by those facilitating the focus group discussion depending on the group and issues raised during the discussion.

The questions below are targeted at households. However, they can also be used for schools. Key stakeholders for school feeding programmes include:

- School principals and teachers
- Members of parent-teacher associations
- Parents of school children
- School children
- Cooks
- Local authority officials, for example, district education officers
- Members of school/food management committees
- Members of village development councils[40]

Focus group discussions capture information about people's beliefs, attitudes and behaviours around cooking fuel and related challenges. Triangulation (comparing and contrasting) with other sources of information (both quantitative and qualitative) allows verification and highlights inconsistencies, thus increasing the trustworthiness and validity of the research results.

A SAFE-related assessment includes questions about protection and GBV. When conducting a focus group discussion on such sensitive topics, to increase the comfort level, it is often preferable to create a group that is homogeneous with regard to age, sex, ethnicity, etc. At the very least, separate male/female and adult/youth groups should be considered.

39. A sample checklist as well as some useful guidance on how to conduct focus group discussions can also be found in the WFP's EFSA and CFSVA handbooks.
40. Village development councils, or similar, may be required only in the event that a school might require allocated land to set-up woodlots.

Ideally, the number of participants in a focus group discussion should not exceed 10-15. However, experience in various locations shows that it is often difficult – and usually not advisable – to prevent people from participating into the discussion, as long as homogeneity (particularly in relation to gender) is preserved and high participation does not disrupt the discussion.

Location and timing are also crucial. Focus group discussions should be held in a private, non-threatening, and easily accessible place, and at a time that is appropriate to the participants' needs and schedule. Duration should be agreed upon with participants and should not exceed an hour and a half. Finally, seating arrangements should encourage participation and a feeling of inclusion.

Below is a set of sample open-ended questions that are designed to encourage respondents to offer information often not captured using other methods. Facilitators should be skilled at listening to and watching people's reactions. Depending on the context, facilitator(s) of the same sex as participants may be preferable.

Focus group discussion

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

- Always begin the session by explaining the procedures and objectives of the focus group discussion. Make sure that all participants know who you are, why you are interviewing them, what types of questions you will be asking, and how any information you obtain from them will be used.
- Be certain that all participants understand the format and discussion topics in advance and can choose not to participate if they are uncomfortable in any way.
- Always obtain permission to quote interviewees' answers and/or to take pictures. However, specify that confidentiality will be maintained at all times. Thus, no record will be kept of either participants' names or addresses.
- Make it clear that some of the topics may be difficult to discuss, and remind participants that they are free to interrupt, to leave, or to skip any question they may not want to answer.

- Depending on the context some questions may not apply. Feel free to skip, adapt, or rephrase as necessary.
- If translation is needed, share and discuss the questionnaire with local translators beforehand to avoid linguistic or cultural biases and misunderstandings.
- Reassure participants that, although this activity is conducted by WFP, answers will not affect existing WFP's activities in terms of targeting, commodities being distributed and general entitlements. Rather, findings from this discussion are intended to improve WFP's operations and to strengthen the safety, dignity and integrity of assisted populations.
- The following statement may be adapted for use in advance of a FGD/interview to ensure that interviewees are aware of and comfortable with the process:
  'I am interested in learning about your views on the type of fuel you use for cooking. I would like to ask your permission to interview you and other people in your community about things like firewood, how you collect it, and how safe you feel doing so. Participation is voluntary and you are free to interrupt the interview at any time, or to skip any question you may not want to answer. There are no wrong or right answers. Information you provide will be used for [example only: evaluating different types of cooking fuels] and it will be shared publicly with the aim of educating others about which fuels work best in your situation, which you prefer, and why. The information will be shared in general terms, and no reference will be made to any of you specifically. Personal information that we gather in this discussion, if any, will be treated with the utmost confidentiality, and I will not keep records of either your name or address. I expect our talk to last about [length of time]. Do I have your permission to begin, please?'

DEMOGRAPHIC

- For how long have people been living in this camp/settlement/village?
- What do people do now (if anything) to earn a living?
- What did people do to earn a living before they were displaced?

FOOD AND COOKING PREPARATION PRACTICES AND TECHNIQUES

- What foods do people normally cook? How long does it take to cook them? How many meals per day do people cook? How much time do people spend cooking each day?
- Which type(s)[41] of fuel do people use for cooking? How much do people use on average per week?
- What/how did people cook before displacement?
- Would people consider cooking other types of food if they cooked faster?
- How do people prepare the food before cooking it? *(For example, soaking beans, cutting vegetables, into small pieces, etc.)*
- Would people consider cooking with neighbours in order to use less firewood/cooking fuel and therefore not have to collect or buy it as often? If so, why? If not, why not?
- What, in people's opinion, is the most important part of cooking? *(Apart from making food edible, of course!)* – The social aspect *(for example, cooking with other family members)*, having a fire to gather around, the act of providing for the family, etc.
- For what other purposes do people use firewood/fuel?

For firewood users:

- What do people currently use for cooking? *(For example, 3-stone fire, improved stove, other?)*

A. If 3-stone fire or other 'traditional' method:

- How do people get the firewood? *(For example, do people collect it themselves, or do they rely on others to collect it? Do they purchase it or is it given to them?)*
  - IF THEY COLLECT THEIR OWN: How often must people collect it? How long do such trips take? Do the trips take longer than they used to? Do people go alone or with others? How many do they go with? Where exactly do people go? Why do people go there?
  - IF THEY PURCHASED: Where do people purchase it? Roughly, how much do people spend on it per week? How much does a bundle of firewood cost? How long does it last? Where do people get the money from? Why do people purchase the wood rather than collect it? Did people use to collect it before? If so, what do people do with the extra time now that they do not collect it? Has the cost of firewood changed during the time they have been displaced?

41. It is not uncommon that households use a combination of fuels depending on the season, availability, price, and so on.

- IF FIREWOOD IS GIVEN: Who gives people firewood? How often? How much? Is the amount people receive enough to cook for their family every day? Is it enough to cover the other needs? If not, how do people supplement the wood they are given? Have people discussed their firewood/fuel needs with the agency that gives it to them?

B. If an improved [wood-burning] stove:

- What type of stove are people using? *(For example, mud, clay, ceramic, metal, combination, etc.)* Is it the same type of stove people were using before displacement? Have people been using different types of stove over the period they have been displaced?
- Did people make the stove themselves, was it given to them or did they have to work for it/purchase it? If so, how much did they pay?
- If people made their stove, did they receive training on how to make and use it? From whom? How long was the training? Was the training only on how to make and use the stove, or did it involve other things as well *(For example, food preparation and cooking practices, reading, health care, etc.)*?
- After people received training and were given the stove, was there any follow-up by the agency?
- Did people train anyone else?

For other fuels' users:

- If people do not use a three-stone fire or an improved wood-burning stove, what do they use *(For example, charcoal or kerosene stove, solar cooker, etc.)*? Is this the only cooking device people use, or do people combine it with other methods? If so, which other methods? Why do people use more than one method for cooking? Do people still use firewood? If so, for what?

OPINIONS ABOUT THE STOVE

- Do people like the stove? Why do they like it, or why not? *(What about it is good, and what about it is not good?)* What would people do if it broke?
- What do people consider to be the most important aspect of the stove? *(For example: easy to use, durable, portable, uses less fuel, cooks food well, was given to you for free, etc.)*
- Do people think they use less fuel with the stove?
- Now that they have the stove, do people go out to collect/purchase fuel less often?
- What would people change about the stove if they could?

TRAINING:

- How did people come across this particular device *(was it given to them, did they buy it, etc.)*? If bought, how much did they pay? If given, by whom?
- Did people receive training on how to make it and/or use it? From whom? For how long was the training?
- Has there been any follow-up?

PROTECTION RISKS ASSOCIATED WITH FIREWOOD COLLECTION

- What issues do people have concerning the fuel they use to cook with?
- How frequently do people leave the camp/village? Why do they leave? How far/where do they go?
- Is there something that people are afraid of inside the camp or outside the camp? If yes, what or who makes them feel unsafe?
- Is this a recent concern, or has that been there for a long time?
- Are there times or days when people feel safer to leave the camp/village? Is so, why?
- Are there circumstances or a place where people feel safer? If so, why?
- What would make people feel safer?
- What would people normally do to protect themselves?
- Have people ever heard of something happening to anybody inside/outside the camp? What exactly?
- What did that they do about it?
- To whom would people talk to about safety?
- Are people aware of any service available within the camp/village or outside the camp/village to refer to?
- Would people go to it or refer other people to it? *(for example, family members, friends, neighbours)* to it? Why/why not?
- How do people feel about security forces *(for example, police, peacekeepers, army, etc.)*? Do they make people feel safer?
- Did people ever participate in firewood patrol? What did they feel about them? Would they participate again if they were reinstituted?

For school feeding

- How do difficulties in accessing firewood affect the school feeding programme?
- If firewood is provided by the community, what are the consequences if a child's family cannot pay or contribute firewood?

INCOME GENERATING ACTIVITIES

- Do you know of people collecting firewood or manufacturing charcoal to sell? Are they adults of children/men or women?
- How much money do they make?
- How often do they do it? *(For example, only during the dry season/in times of hardship, etc.)*
- Do you know whether these people have any means of earning money other than through selling firewood/charcoal?
- What would be a good alternative way for them to earn money?

OTHER

- What else do you think might be needed to help with the cooking energy needs?
- What else do you think *you* can do to manage energy needs?
- Is there anything else you would like to tell me about collecting firewood, using stoves or other cooking devices, or how safe you feel in or outside the camp/village?
- Do you have any questions for me?

4.5.4 Guiding questions: humanitarian agencies and donors

Below are some sample questions for humanitarian agencies (UN, International Organizations, NGOs, community-based organizations [CBOs], etc.), and donors. Given the multi-sectoral nature of cooking energy systems, engagement of multiple actors is critical to an effective response programme.

Humanitarian agencies

PROGRAMME INFORMATION

- Agency's involvement in cooking energy issues
  - Type of programme
  - The programme's primary/secondary objectives (protection, livelihood, environment, health, food security and nutrition) and their relationships
  - Duration
  - Targeted areas
  - Scale/beneficiaries
  - History/previous experience/current status
  - Costs and funding sources

PROTECTION (if **safety**, **dignity** and **integrity** are key motivations for the programme)

- Protection concerns associated with the cooking energy system: extent, locations, circumstances, etc.
- Key perpetrators and underlying reasons *(for example: locals, security forces, fellow refugee, displaced persons, family member, etc.)*
- Community-based coping mechanisms *(for example: fetching firewood in groups, accompaniment by men, etc.)*
- Existing response/support mechanisms *(for example: health/judicial/security/social/psychological services)*
- Detailed protection interventions
- Linkages with cooking energy system
- Linkages with other programme objectives

ENVIRONMENT (if **environment** is a key motivation for the programme)

- Environmental needs and concerns in the targeted area/s
- Detailed environmental interventions
- Linkages with cooking energy system
- Linkages with other programme objectives

LIVELIHOOD (if **livelihood** is a key motivation for the programme)

- Livelihood options, opportunities and challenges
- Detailed livelihood interventions
- Linkages with cooking energy system
- Linkages with other programme objectives

FOOD AND NUTRITION (if **food and nutrition** is a key motivation for the programme)

- Food security and nutritional status of the targeted population
- Detailed food and nutrition interventions
- Linkages with cooking energy system
- Linkages with other programme objectives

HEALTH (if **health** is a key motivation for the programme)

- Health problems associated with indoor air pollution
- Detailed health interventions
- Linkages with cooking energy system
- Linkages with other programme objectives

OPERATIONAL: DEVICE/PROGRAMME DETAILS (only if a **cooking device** is considered within the programme)

- Cooking device *(for example: material, source, reasons for choosing it, etc.)*
- Detailed intervention, including community engagement/contribution
- Users' practices and uptake

BENEFITS/IMPACTS

- Opportunities and challenges associated with protection, environment, livelihood, food and nutrition, and health
- Monitoring mechanisms
- Sustainability and opportunities for scale-up
- Additional observed or perceived benefits or drawbacks.

Donors

Background/policy

- Have you ever funded an intervention related to cooking energy system? If not, why?
- What was the key focus or entry point of the project (environment, protection, food security, livelihoods, etc.)?
- Was this in response to a specific request or need raised by the Government? By the implementing agency?
- Which mechanisms (if any) do you have in place to monitor implementation and effectiveness, and impact of the project, including the technical capacity of the implementer?
- What were/are the funding criteria?
- Was the project successful? If yes, why? If no, why not?
- What are the key elements (if any) that made the project sustainable?
- What are the main lessons learned and what have you done about them?
- What are your views about cooking fuel concerns/challenges in humanitarian/development settings?

5

Design and planning

Part III
Steps for programming

5

key concepts

5.1 Data analysis

The task of analysing and interpreting SAFE-related data can be challenging. In part, this is because there is so much qualitative information on SAFE-related topics that are also sensitive in nature. Protection and gender-based violence are, of course, prime examples. The web of inter-relationships among the different strands embraced by SAFE is also complex.

Yet, qualitative information provides an insight into people's behaviours, attitudes and perceptions. This, in turn, leads to better understanding of complex social phenomena.[42] Solid, statistically relevant data may exist on some of the issues under consideration, but it is often necessary to strike a balance. Rigorous data processing and interpretation are valuable, but other methods may be better suited to diverse and complex social contexts. However data is gathered, triangulation is essential. Comparing and contrasting findings across sites and data collection methods – such as focus groups discussions, key informant interviews, review of secondary sources – allow for a thorough and unbiased picture of the situation.

A causal flow analysis to establish the relationships between multiple variables should not be ruled out entirely. However, the methodology applied in the analysis of SAFE information is often empirical rather than statistical or scientific. This guide does not elaborate on statistical methods for data analysis and processing. Instead, it offers practical examples that demonstrate how information from different sources can be combined to shed light on a specific setting.

Information generated by SAFE assessments, as well as data obtained from secondary sources, combines to describe the geographic, security and socio-economic context. It also explains the many challenges associated with access to fuel for cooking, the extent of people's vulnerability to those challenges, and their capacity to cope.

SAFE assessments collect data at individual, household and community levels. At the individual level, these might include the sex and age of those at risk of GBV during firewood collection. They will also capture people's knowledge and use of GBV prevention and response mechanisms.

42. Guidance on researching violence against women can be found in WHO (2005). *Researching Violence Against Women. A Practical Guide for Researchers and Activists*. Geneva: WHO.

At the household level, assessments record expenditure on cooking fuel, fuel consumption, and the proportion of households' income derived from selling firewood. How much, and how often food is bartered or sold for fuel is of particular relevance to WFP.

At the community level, information covers aspects such as: access to and use of resources by both the displaced population and the host community – and the tensions between them; fuel for cooking in schools; availability of and access to fuel for cooking in the market, and so on.

Combined, these data reveal opportunities for SAFE activities, and unearth potential hurdles.

The goal of processing all this data is to determine which cooking fuel strategy would be most appropriate. To make this easier, IASC has produced *Decision Tree Diagrams* that are suitable for use in diverse response settings. These are reproduced at the end of this section and on the USB flash drive that accompanies this handbook. It can also be downloaded from the IASC's website.[43]

WFP's EFSA Handbook and CFSVA Guidelines also contain guidance on interpreting fuel-related data. Useful insights include the following. The degree of reliance on negative coping mechanisms, such as cutting trees for sale, is an indicator of households' vulnerability level in a crisis.[44] The type of fuel used can be considered a proxy of socio-economic status at both household and aggregated levels.[45]

Empirical interpretation of evidence from SAFE assessments will often confirm links between seemingly disparate factors. For instance, SAFE findings support other research indicating that an increase in the household income is likely to translate into use of cleaner fuel.[46] SAFE has also contributed to knowledge around protection. In highly insecure environments with a high prevalence of GBV, heavy reliance on firewood for consumption and selling signifies that households are extremely vulnerable and lack other livelihood options.

43. The full URL for IASC's *Decision Tree Diagram* is: http://www.fuelnetwork.org/index.php?option=com_docman&task=doc_download&gid=267&Itemid=57
44. WFP (2009). *Emergency Food Security Assessment Handbook*. Rome: WFP, 26.
45. WFP (2009). *Comprehensive Food Security and Vulnerability Analysis Guidelines*. Rome: WFP, 102 and 276.
46. There is an abundance of evidence that household energy, prosperity and development are often linked at household as well as community levels. See, for example, WHO (2006). *Fuel for Life – Household Energy and Health*. Geneva: WHO, 9.

The issue of protection requires careful analysis. Two tools in WFP's *Basic Guide to Mainstreaming Protection in WFP's Programme Cycle* – the problem web and protection matrix – can provide more clarity in the context of WFP's food assistance programming.[47]

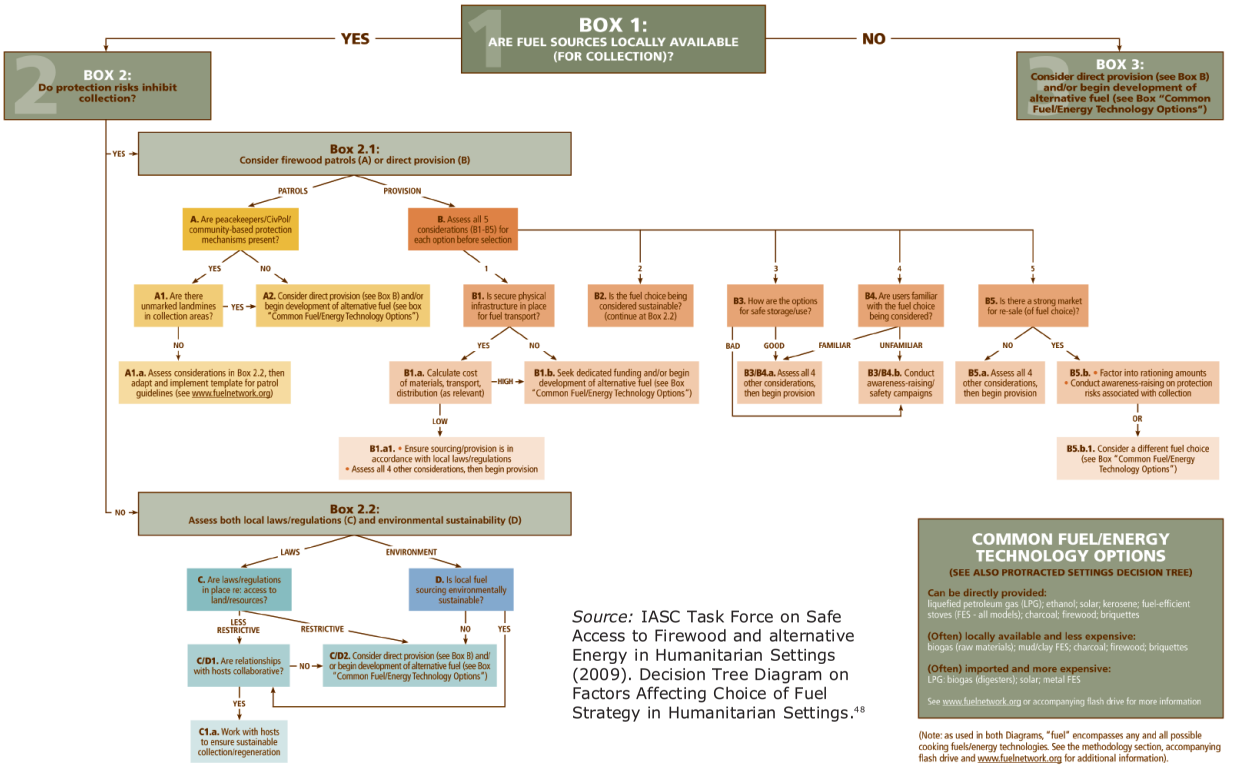
Box 2: Quick tips for conducting data analysis

When conducting data analysis:

- Employ a multi-dimensional approach when analysing data to inform programme design and implementation.
- Always consider how SAFE-related implications in one area of intervention interrelate with those in others. This includes cross-cutting issues such as protection and GBV. For example: environmental degradation → women have to walk farther to reach firewood collection sites → increased exposure to physical and sexual assaults.
- Aggregate and process data from all levels (individual, household and community/broader contexts).
- Triangulate between different methods of data gathering and different sources of information.
- Refer to existing tools, such as IASC's *Decision Tree Diagrams* and WFP's EFSA *Handbook* and *CFSVA Guidelines*, for practical guidance on data processing.

47. WFP (2012). *Protection in WFP's Operations – A Basic Guide to Mainstreaming Protection in WFP's Programme Cycle*. Rome: WFP.

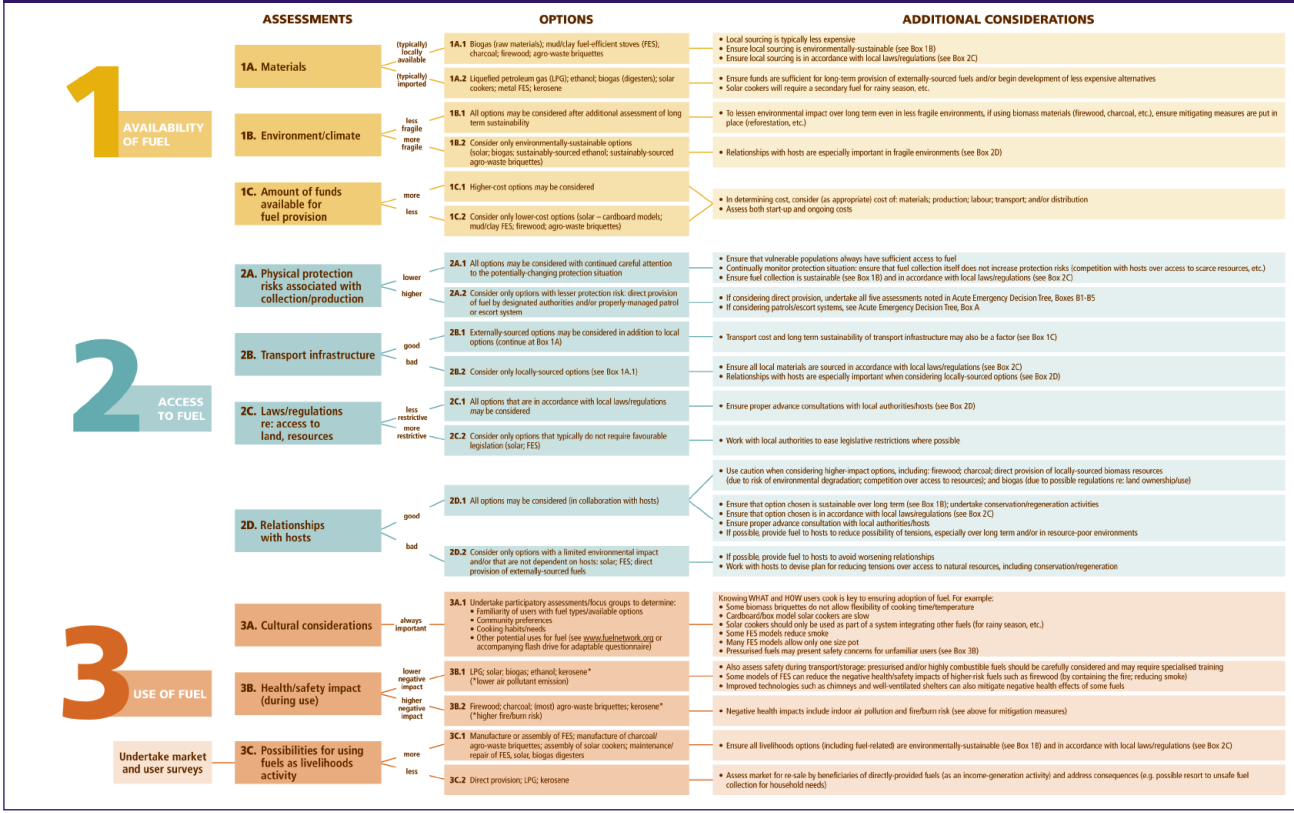
Figure 3: Decision tree diagram



Source: IASC Task Force on Safe Access to Firewood and alternative Energy in Humanitarian Settings (2009). Decision Tree Diagram on Factors Affecting Choice of Fuel Strategy in Humanitarian Settings.[48]

48. Digital versions of this *Decision Tree Diagram* and IASC's *Matrix* are available on the USB flash drive attached to the *Handbook*. They are also posted online at http://www.fuelnetwork.org

Figure 3: Decision tree diagram



Source: IASC TF SAFE in Humanitarian Setting (2009). Decision Tree Diagrams on Factors Affecting Choice of Fuel Strategy in Humanitarian Settings.

5.2 Standard operating procedures: who, what, where and when

Lessons from SAFE programming have proved WFP's ability to bring together actors from different sectors to develop coherent, well-coordinated SAFE programmes. Yet, deciding on '*who*' does '*what*', '*where*' and '*when*' can be challenging. Partnership on SAFE depends on a number of factors. These include: capacity, area of expertise, available resources, familiarity with the situation and potential solutions, and security issues.

Consultations with stakeholders, including non-traditional WFP partners, conducted in the framework of in-depth SAFE assessments[49] have proven instrumental not only when mapping out past and current fuel-related activities, but also when identifying activities' achievements and shortcomings. They have also explored synergies and opportunities for collaboration with relevant actors on the ground ('who').

In Box 3, below, is a list of proposed and/or implemented activities, organized by issue,[50] in countries where comprehensive SAFE assessments have taken place. The examples in the list give an idea of '*what*' a multi-sectoral fuel strategy could entail. Involving multiple sectors maximises impact by addressing all aspects of the challenges and problems of safe access to cooking fuel. This multiplicity is a significant success factor of the SAFE programme.

49. During an in-depth field assessment, a team consisting of Policy Division members and external experts typically work with the WFP Country Office to develop three main outputs. These are: 1. A comprehensive multi-sectoral fuel strategy at country level, incorporating activities by all IASC actors; 2. An appraisal document for site-specific WFP projects that describes findings on existing activities and provides a detailed problem analysis; 3. An actionable project proposal based on the appraisal document, including a budget plan.
50. These are the issues on which the IASC Task Force on SAFE focuses.

Box 3: Menu of possible SAFE activities

Stoves and Fuels

- Stove distribution at household level – Ethiopia, Kenya, Sri Lanka
- Stove manufacturing: mud stoves, clay stoves – Kenya, North Darfur, Sri Lanka, Uganda
- Institutional stove distribution (schools): woodfuel and LPG – Kenya, North Darfur, Sri Lanka, Uganda
- Training on production and maintenance of FES, including training of trainers – Ethiopia, North Darfur, Uganda
- Training on fuel-saving cooking practices –Ethiopia, Uganda
- Production of briquettes and biofuel –Ethiopia, North Darfur

Protection

- GBV Assessment and Monitoring – Ethiopia, Kenya
- Awareness-raising and sensitization on GBV – Ethiopia, Kenya
- Recruitment/refreshment of community-based outreach workers on GBV awareness and victims' support activities – Ethiopia

Livelihoods

- Stove production and selling (supported by market analysis) – Sri Lanka
- Agricultural-based activities: distribution of cash crop seeds, crops for oil/biofuel production, women's cooperatives for commercialization of agricultural products, food crops – Ethiopia, North Darfur, Uganda
- Food fortification – North Darfur
- IGAs promotion: bee keeping, collection and sale of plastic waste material, pottery – Ethiopia, Sri Lanka
- Micro-credit – North Darfur
- Voucher programme to pay for milling costs – North Darfur

Environment

- Irrigation and water conservation systems (FFW) – Ethiopia, North Darfur, Sri Lanka, Uganda
- Home gardens (FFW) – Sri Lanka
- Tree nurseries and planting (FFW) – Ethiopia, North Darfur, Sri Lanka, Uganda
- Terracing (FFW) – Ethiopia
- Establishment of school wood-lots (FFW) – Uganda

Research and Development (R&D)

- Piloting of new technologies (cooking device and fuel): briquetting with Prosopis Juliflora, ethanol fuel and stove – Kenya, North Darfur, Sri Lanka

5.2.1 Targeting

The general principles outlined here will guide staff and partners as they target programming within the SAFE framework. Note, however, that every context requires its own situation-specific analysis and targeting approach.

Having conducted an assessment and analysed its results, it is then necessary to define the population and locations to be targeted by SAFE interventions. The following criteria should be applied:

1. Food-insecure people already targeted within the framework of WFP's operations.

2. Areas where lack of safe access to cooking fuel undermines the impact of food assistance because of protection risks leading to higher vulnerability to food insecurity; negative coping mechanisms such as selling food rations; health impact of indoor air pollution.

3. Areas where fuel scarcity is greatest – for example arid and extremely degraded land ('*where*').

Working within this framework, consultation with partner organizations and local community structures can yield valuable information about household-level targeting.

Targeting SAFE programmes for schools as part of the school feeding programme involves slightly different criteria. Again, they include wood scarcity and risks associated with collection. However, because limited access to cooking fuel affects children's attendance and their entitlement to education and school meals, these factors must be evaluated, too.[51]

Participatory approaches or community-based targeting should be explored where possible. Sometimes, however, community-based targeting may not be possible as targeting may become discriminatory or biased due to local social dynamics. However, community-based targeting allows continuation of programmes when security risks limit contact between humanitarian agencies and the affected population.

51. This was the case in Darfur, for example, where targeting for the distribution of FES was done according to scarcity of wood and dropout rates in rural areas and Internally Displaced Persons (IDPs).

It is preferable to engage beneficiaries in defining the targeting criteria. However, in complex emergencies, in which there are security and access constraints, this may be impossible. Often, costly, intensive and time-consuming household targeting methods cannot be used at the outset of a crisis. Initially, more generalized methods are employed; these are then refined as the security situation improves. At times, targeting of entire groups, based on geographic location, is the only sensible and viable course of action.[52]

While targeting should be based on the humanitarian principle of impartiality and the actual needs of people on the ground, attention must be paid to the **protection** of the targeted population. Excluding certain groups can exacerbate tensions and create risks for those who have been included. Conversely, including groups who do not experience the same fuel needs undermines impartiality and may cause harm.[53]

It is difficult, if not impossible, to avoid all possible targeting errors; the challenge is to strike the right balance between inclusion and exclusion without endangering the lives of those affected.[54] SAFE recognizes that local communities are often as susceptible as displaced populations to fuel scarcity challenges, and so programming often targets both.

As well as responding to specific needs, by including local communities SAFE can help reduce tensions arising from competition for scarce resources. It can also build bridges between locals and displaced populations. This may encourage locals to accept and protect the displaced people.

When resources are limited and needs are high, the targeting strategy must be carefully devised to avoid diluting the assistance provided. At the same time, the strategy must minimize risks to the target populations.

This does not mean that hosts and displaced people must be targeted equally or with the same activity. For instance, in Kakuma refugee camps in Kenya, firewood distribution is only targeted at refugees. Host communities, meanwhile, are contracted to harvest and distribute the wood. In return, they receive an income and keep control of source areas.

52. WFP (2003). *Targeting in Emergencies*. Rome: WFP, WFP/EB.1/2006/5-A.
53. The idea behind the 'do no harm' approach is that assistance operations are accountable for both their positive, intended impacts, and for the – often unintended – negative ones. For more information on the approach and guidance on applying it refer to: Mary Anderson (1999). *Do No Harm: How Aid Can Support Peace—Or War*. Boulder: Lynne Rienner Publishers.
54. WFP (2003). *Targeting in Emergencies*. Rome: WFP, WFP/EB.1/2006/5-A, 14.

Another key principle is that targeting must be flexible enough to adapt to and accommodate changes in populations' needs. Regular monitoring is needed to ensure that the best possible targeting decisions, and adjustments, are made throughout the life of the programme.

Deciding '*when*' to initiate a SAFE programme depends on the nature of the activity and the operational context. In emergency contexts, WFP should consider implementing SAFE when fuel scarcity is hampering food assistance programmes. In transition and in development situations, SAFE programmes can contribute to tackling medium- and long-term protection, environmental and livelihoods challenges. Thus, SAFE complements WFP's food security strategy.

Yet, conditions may prevent consideration of certain activities. For instance, in the early phase of an emergency, fuel and cooking utensils may not be available and so constructing or distributing fuel-efficient stoves would be futile. Seasonality also influences project viability. People may be busy with farming and other productive activities, or the season may not be suitable for tree-planting or promoting agricultural-based livelihoods. The 'when' of certain activities may also be determined by people's daily schedule, particularly women's.

5.2.2 Community consultation and planning process

Ideally, programmes should always involve community consultation and participatory planning. This participatory approach extends throughout the project's lifetime. Regular and systematic consultation with beneficiaries is central to the success of SAFE.

Community participation helps identify activities that will make a meaningful contribution to participants' and the wider community's well-being. It also helps to determine which project priorities, timing and methods will suit beneficiaries best. Engaging communities in this way ensures ownership and durability of proposed solutions.

Lessons from international programmes and WFP's operations show the 'top-down' approach – i.e. imposing pre-determined solutions – is less effective than working collaboratively. It is important to offer several fuel-efficient stove designs, and then narrow down the choice according to users' requirements and financial capabilities, local design, materials and skills. To identify which

design is most suitable, users must be consulted about traditional food preparation and cooking practices and their opinions must be sought on which stove they think will be best for them. Project sustainability will depend on high levels of community participation and ownership. It will be necessary to build local capacity in stove construction and maintenance, alternative energy and livelihoods, and the sustainable use of natural resources.

Community participation also helps maximise positive impacts and limit unintended harm. It makes it possible to identify and build upon local capacity. It also reveals how people are surviving and protecting themselves, and how the most vulnerable are being supported. These insights are useful, not least because communities have already done the ground work. They will have a clearer understanding as to whether certain strategies will work, and which ones might do more harm than good.

Understanding power relations and governance at the community level is critical for decision-making about targeting and planning. It helps avoid unintended consequences that ultimately would put people at more risk. Examples include: undermining people's own coping strategies; fuelling conflicts; and perpetuating discrimination against certain groups.

All of these points underscore the need to engage representatives from different groups. Diversity within the community – sex, age, socio-economic status, religious and ethnic background, etc. – must be accommodated. SAFE programmes are wide-ranging, and different activities may target different groups. Fitting the right ones to the right people requires a solid understanding of group-specific needs, concerns, opportunities and challenges.

Promoting participation may prove difficult and time-consuming. This is especially true in emergencies and in volatile situations where security risks impede contact between humanitarian agencies and recipient communities. Decisions may have to be taken as to whether community involvement is feasible and, if it is, to what extent it will be encouraged and enabled.

5.3 Good practices

When designing a SAFE programme, it is necessary to consider both the target population and area, and the capacity of the implementing agency. Does the agency have adequate financial and human resources to implement certain options? Drawing on past experience, the issues of field-level staffing and engagement with experts and the private sector are considered below. Both cautionary tales and tips are provided.

Previous attempts by the humanitarian system to respond to the problems associated with fuel for cooking have encountered significant challenges. Various organizations have provided or manufactured fuel-efficient stoves, and some have focused programming on alternative income options. However, the sustainability of most initiatives was undermined by a lack of competent, dedicated staff and resources.[55]

Typically, when cooking fuel is addressed, it is an add-on. Staff, busy with other duties, do not give it enough time or attention, and the programme is neither effective nor sustainable.

To overcome this challenge, a SAFE programme manager should be appointed to oversee the implementation of SAFE projects in the field. Depending on the context and Country Offices' organizational modalities, the manager could be based either at the national (Country) office or at field level. If the size of the operations demands more personnel, one or two support staff should be recruited to carry out general tasks.

Champions from the targeted community should be engaged as outreach workers and trainers. Selection should be based on their familiarity with the context, culture, and language, and the role and reputation they hold within the community.

To be sustainable, cooking fuel strategies must be supported by the cooks themselves – usually, women and girls. Women must be consulted during the design and planning of cooking fuel strategies. They must be trained in every

55. See, for example, ProAct (2008). *Assessing the Effectiveness of Fuel-Efficient Stove Programming. A Darfur-Wide Review*. Geneva: ProAct, 2-3.

aspect of the production and use of household energy technologies, including fuel-efficient stoves. And they must be empowered to engage in capacity-building and awareness-raising of other women and groups.

Few organizations have the expertise to address all the technical aspects of SAFE programming. Alternative fuel sources, and stove design, manufacturing, market analysis and supply chain must all be considered, and this usually requires outside help. WFP works with partners from both the humanitarian and private sectors, including Aprovecho, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), FAO and UNEP.

WFP's collaboration with GIZ in Karamoja, Uganda is a good example. Here, new rocket stove technology, originally designed by Aprovecho, was wedded with more traditional mud stoves. SAFE requires innovation, and this example illustrates why it is sometimes necessary to look beyond traditional partners to secure specific kinds of expertise.

5.4 Tools

5.4.1 Sample terms of reference for SAFE programme manager

As previously indicated, among the reasons that undermined the effectiveness and sustainability of cooking fuel initiatives there was lack of dedicated staff and resources. Below is the Terms of Reference (ToR) for a WFP's SAFE Programme Manager, which outlines the tasks and core competencies required for managing the SAFE programme at country and field levels. Past experience has highlighted the difficulty of finding such a wealth of expertise and experience combined in just one candidate. Among the requirements, solid experience in critical locations and availability to move to difficult places have been particularly difficult to meet. This ToR is meant to provide support in the search and selection of relevant candidates.

Terms of reference SAFE programme manager WFP *[please indicate the country]*

Background on SAFE

Given the risks arising from the collection, supply and use of cooking fuel in food assistance operations, WFP co-chaired the IASC Task Force on SAFE (*the Inter-Agency Standing Committee Task Force on Safe Access to Firewood and Alternative Energy in Humanitarian Settings*) to produce a roadmap for coordinated humanitarian response. As the agency primarily responsible for food assistance, it was agreed that in acute emergencies WFP would provide pre-cooked/easy to cook foods whenever possible and work with key partners to identify and promote access to alternative fuels and to fuel-efficient cooking practices and technologies. In 2009, the Executive Director committed WFP to working with key partners to target half of WFP's beneficiaries in displacement settings with the SAFE approach. Through its SAFE initiative, WFP is helping to protect women who risk rape and violence while gathering firewood and to improve their food security by reducing their dependence on expensive fuel and ensuring that food can be cooked. WFP is providing poor women with fuel-efficient stoves and fuel, and alternative means to generate income so that they are not forced to walk long distances, at great risk, to collect firewood for income. *[Add specific information on SAFE projects/programme in the specific context, if useful]*

Description of the assignment

- Location:
- Duration:
- Reporting:

Main responsibilities

Technical

- Coordinate SAFE-related activities: production and/or dissemination[56] of stoves and alternative fuel, training of end users and follow-up, regularly review the uptake and impact of the new cooking technology and practices;
- Coordinate efforts to integrate SAFE approach and objectives into relevant fields such as: 1) protection; 2) the environment; and 3) livelihoods;
- Continue to explore the most effective and context-appropriate cooking technologies, including the possibility of local production;
- Train/sensitize WFP staff on SAFE and conduct additional assessments, as necessary;
- Analyse the possibility of earning carbon credits through fuel-efficient stove projects in collaboration with relevant stakeholders.

Managerial

- Oversee all aspects of the SAFE programme, including staffing, funding, planning and implementation, and monitoring and evaluation of implemented activities;
- Liaise with and overseeing the work of cooperating partners;
- Ensure monitoring and evaluation of both the programme and the impacts of the stoves and other SAFE-related activities on the lives of users, with a focus on:
  - fuel and other savings;
  - protection risks associated with collection, provision and use of fuel for cooking;
  - cooking time;
  - respiratory problems on women and children;
  - environmental impact;
  - livelihoods
- Liaise with key actors (UN Agencies, NGOs, private companies, research institutes and the Government) to ensure collaboration on a multi-sectoral strategy on cooking fuel;

56. See, for example, ProAct (2008). *Assessing the Effectiveness of Fuel-Efficient Stove Programming. A Darfur-Wide Review*. Geneva: ProAct, 2-3.

- Establish relationships with the target community, leaders, and key groups therein;
- Maintain regular communication with the SAFE team at HQ;
- Document all activities implemented, and produce reports required by HQ and donors;
- Generate new and creative ideas for advocacy, communication and fundraising on SAFE;

Expected results

By the end of the assignment, the SAFE Programme Manager will be expected to:

- Document the process, implement, and evaluate the impact of the SAFE programme in the specific context;
- Ensure sustainability of community-based fuel efficient cooking practices and technologies;
- Continue to promote the SAFE approach in other elements of WFP's programming.

Qualifications/skills

- An excellent manager and self-starter;
- Experience in community mobilization;
- Field-based experience in displacement settings;
- Understanding of protection/gender-related issues;
- Specific expertise in at least one of the key areas of concerns: fuel/stove technology; environment/protection/livelihood creation;
- Excellent interpersonal and communication skills;
- Previous experience in managerial and supervisory positions;
- Ability/adaptability to hardship duty station and challenging working environment.

Deadline for applications:
REF:

WFP has zero tolerance for discrimination and does not discriminate on the basis of HIV/AIDS status.
Qualified female applicants and qualified applicants from developing countries are encouraged to apply.

5.4.2 Sample of WFP SAFE project proposal

Below is a template for a WFP SAFE project proposal. The template is the product of field-level testing and consultations in various locations. Examples of activities that could be considered under the SAFE programme framework are provided in Box 3 above.

SAFE access to firewood and alternative energy in *[specify country]* a WFP proposal *[specify date]*

Executive Summary

Provide a summary of the context analysis, findings of the SAFE assessment, if any, and the essentials of the proposed WFP's fuel strategy.

1. RATIONALE

Background. In 2007 WFP agreed to co-chair the *Inter-Agency Standing Committee (IASC) Task Force on Safe Access to Firewood and alternative Energy in Humanitarian Settings* (SAFE) together with UNHCR and the Women's Refugee Commission (which worked under the authority of InterAction). Participation in the SAFE Task Force prompted a global analysis of the protection challenges associated with the collection, provision and use of fuel for cooking – activities closely related to WFP's core mandate. As a result, WFP strengthened its commitment to work in partnership with other relevant actors to promote safe access to cooking fuel in humanitarian settings.

Following the launch of the Task Force's SAFE guidance material in April 2009, WFP decided to undertake a series of feasibility studies in countries where fuel scarcity is negatively affecting WFP beneficiaries. The purpose of these studies is to better understand how beneficiaries, particularly displaced populations, are coping with fuel scarcity and the related consequences; to take stock of existing responses by both WFP and partners; and to propose a comprehensive approach that addresses human and environmental protection, livelihoods, food and nutrition.

To date, missions have been conducted in Chad, the Democratic Republic of the Congo, Ethiopia, Haiti, Kenya, North Darfur (Sudan), South Sudan, Sri Lanka and Uganda *[check with HQ SAFE Team for updated information]*. At COP15 in Copenhagen in December 2009, ***WFP's Executive Director announced that WFP will work with its partners to make safe access to firewood and alternative energy a reality for half of its displaced beneficiary population (6 million) through the SAFE Initiative, by targeting WFP beneficiary households and WFP-assisted schools.*** Focusing on WFP operations with the largest displacement populations, activities are already underway in Haiti, Kenya, Sri Lanka, Sudan and Uganda *[check with HQ SAFE Team for updated information]*.

WFP Operations in *[specify country]*
Provide a brief description of ongoing WFP activities, rationale behind the initiation of a SAFE programme, and its relevance in the specific operational context.

Duration:

Purpose: *Below it is a list of possible general and specific objectives. Please note that the list is not meant to be exhaustive, rather more context specific objectives can and should be added.*

The project aims to promote the integration of household energy needs into humanitarian response, and more specifically: 1) **to reduce the vulnerability and frequency of exposure of women to protection risks** through scaling up the dissemination of fuel-efficient stoves [REDUCE RISKS: GBV, FIRE HAZARDS, BURNS] 2) to **reduce adverse impacts on the environment** by reducing the consumption of firewood, and exploring and promoting the use of alternative fuels and cooking technologies [MITIGATE ENVIRONMENTAL DEGRADATION] 3) to decrease dependency on firewood collection and negative coping mechanisms by **creating alternative livelihood opportunities** [GENERATE INCOME] and 4) to ease the burden on families by **providing fuel-efficient stoves for WFP-assisted school meals** [ENSURE SCHOOL ATTENDANCE AND FEEDING].

While the main entry points for the project are protection, livelihoods and the environment, the ***comprehensive approach to safe access to firewood and alternative energy*** also incorporates the following objectives:

- **Safety** – reducing fire and safety risks by containing cooking fires, resulting in fewer incidences of plastic/fodder catching fire and spreading though camps/communities, and reduction of the risk of burns from contact with open fires;

- **Health** – decreasing in indoor air pollution by increasing the efficiency of fuel combustion and heat transfer over that of a traditional three-stone (open) fire and reducing unhealthy smoke and particle emissions;
- **Climate and environment** – mitigating environmental degradation and contributing to disaster risk reduction by: i) reducing deforestation caused by firewood collection practices; ii) introducing alternative energy-efficient fuels; iii) reducing emissions by introducing improved stove models; and (iv) investing in environmental regeneration and sustainable use of natural resources
- **Capacity building and technology transfer** – supporting women for the adoption, maintenance, dissemination, and use of the fuel-efficient technology and practices.

2. ACTIVITIES

Describe the activities that are going to be undertaken, targeted populations and areas, and expected results. Please note that a clear link should be made between the activities articulated here and the objectives stated in the previous section. Below is an example of how this section can be articulated.

Objective 1) to reduce the vulnerability and frequency of exposure of women to protection risks:

Activity 1.1
Activity 1.2
Activity 1.3

Objective 2) to reduce adverse impacts on the environment through the promotion of alternative fuels and cooking technologies

Activity 2.1
Activity 2.2
Activity 2.3

Objective 3) to decrease dependency on firewood collection and negative coping mechanisms and promote alternative livelihood opportunities

Activity 3.1
Activity 3.2
Activity 3.3

Objective 4) to ease the burden on families by providing fuel-efficient stoves for WFP-assisted school meals

Activity 4.1
Activity 4.2
Activity 4.3

3. MONITORING and EVALUATION

WFP will work with *[indicate cooperating partners]* to integrate SAFE related activities and objectives in monitoring and evaluation processes and tools *[see the relevant section of the SAFE Handbook for guidance on SAFE-related monitoring and evaluation processes and tools].*

4. MANAGEMENT

A dedicated SAFE Programme Manager, under the guidance of the head of the WFP Country Office, will be responsible for coordinating and supervising all SAFE activities, including strengthening the capacity of cooperating partners, managing the relationships with partner agencies, monitoring and evaluation, and reporting both to HQ and to donors. WFP local staff in targeted areas will be responsible for overseeing daily operations. The SAFE programme team at Headquarters will continue to provide ongoing technical and strategic support to the Country Office and facilitate linkages and information sharing with SAFE programming in other countries.

A Memorandum of Understanding that outlines responsibilities and activities, including the allocation of resources, will be signed with cooperating partners.

5. BUDGET for *[specify duration]* project

Management

Staff/Activity Cost		**Cost**
Programme management		US$
Total		***US$***

Below is a table for the budget of activities planned. List all activities planned, in the same order as they were listed in section 2, and indicate their cost in US$. The Notes column is to be used to specify particular costs of activities, when needed.

Objective 1) to reduce the vulnerability and frequency of exposure of women to protection risks

Activity	Notes	Cost
		US$
		US$
		US$
Total		***US$***

Objective 2) to reduce adverse impacts on the environment

Activity	Notes	Cost
		US$
		US$
		US$
Total		***US$***

Objective 3) to decrease dependency on firewood collection and negative coping mechanisms

Activity	Notes	Cost
		US$
		US$
		US$
Total		***US$***

Objective 4) to ease the burden on families by providing fuel-efficient stoves for WFP-assisted school meals

Activity	Notes	Cost
		US$
		US$
		US$
Total		***US$***

Subtotal: US$
Institutional Support Cost (%):
Estimated Grand Total: US$

5.4.3 Sample of SAFE action plan

Sample of SAFE ACTION PLAN

Activities	Indicators	Target Beneficiaries	Actual Beneficiaries	Start Date	End Date	Responsible Actor	Cooperating Partners	Comments
Protection								
Stove and Fuel								

(continue...)

Sample of SAFE ACTION PLAN

(...continue)

Activities	Indicators	Target Beneficiaries	Actual Beneficiaries	Start Date	End Date	Responsible Actor	Cooperating Partners	Comments
Environment								
Livelihoods								

5.4.4 Sample of addendum to the field level agreement[57]

Addendum to the field level agreement beweeen United Nations World Food Programme (WFP) and *[name of partner organization]* regarding the implementation of the safe access to fuel and alternative energy (SAFE) project

[Specify name of partner organization] has an agreement with WFP to implement *[specify name of project]* in the districts of *[name of location]* from *[date of start]* to *[date of end]*.

Under the ongoing project activities, construction and dissemination of fuel-efficient stoves (FES) is one of the approved activities to be implemented as part of the larger menu.

As such, this new addendum under the same existing agreement provides additional resources to *[name of partner organization]* from the SAFE project as indicated in the attached budget 'Annex A' to implement dissemination of FES funded by SAFE funds in *[name of location]* as follows:

Partner's Obligations

1.1. Dissemination of FES

Under the guidance of the WFP, the Partner will:

1.1.1. Identify and provide support to training of *[specify number]* Trainer of Trainers (ToTs) to achieve wider coverage of the SAFE project in the agreed areas.

57. This sample was freely adapted from a country-level FLA. It is provided solely as an example and it is not meant to replace any template that currently exists at the corporate level. Field-level agreements should be drafted following the latest guidelines from WFP Legal Office to ensure that it is in line with WFP legal standards.

1.1.2. Provide the logistical support related to the training events and financial commitment already budgeted for under the SAFE budget to the Trainers from the partner as part of the approved budget to enable the training of the community ToTs in locations 1.1.1 above.
1.1.3. Take over the supervision, monitoring and follow up of the trained SAFE ToTs in the sub counties highlighted under 1.1.1 above and provide the necessary support to enable the dissemination of FES to targeted households.
1.1.4. Support the trained ToTs to disseminate protection messages to the targeted households and stove end user information to enable proper utilisation of the stoves.

1.2. Reporting

1.2.1. Provide monthly reports generating the number of stoves disseminated to WFP Sub-Offices aimed at indicating the progress of the activities according to the format that will be provided by WFP
1.2.2. Provide a complete narrative report at the end of each cycle as agreed under the *[name of project]* reporting requirements
1.2.3. Provide monthly financial reporting to WFP Sub-Offices along the approved programme reporting lines consolidated as a line within the *[name of project]* financial reporting to WFP.

World Food Programme's Obligations

2.1.1. Provide (partner organization) with the list of the existing ToTs which were trained previously under the ongoing SAFE project and jointly support the identification of new ToTs
2.1.2. Provide standardized monitoring and reporting formats to *[name of partner organization]* to enable reporting as agreed in 1.2.1 above
2.1.3. Provide additional resources as agreed with *[name of partner organization]* in the attached budget 'Annex A' to support implementation of the proposed activities

The conditions of this addendum shall begin on *[date of start]* and shall end on *[date of end]*

IN WITNESS WHEREOF, the parties hereto have subscribed their names as of the date first above written.

For: The United Nations World Food Programme	**For:** *[name of partner organization]*
Signed:_____ **Name:**	Signed:_____ **Name:**
Title: Deputy Country Director	**Title:** *[specify title]*
Date:	**Date:**
Signed Witness:_____	Signed Witness:_____
Name:_____	Name:_____
Title:_____	Title:_____
Date:_____	Date:_____

5.4.5 SAFE sample logical framework

SAFE Objective 1: To address the immediate cooking needs of the target population			
Results-chain	**Performance Indicators**	**Risks**	**Assumptions**
Outcome 1.1: Increased use of improved cooking technologies and fuels	Number of household using the FES/alternative fuel	- Poor use of alternative fuel and FES - Selling of stoves - Theft of stoves	Beneficiaries know how to use FES and alternative fuel properly
	Number of assisted schools using FES/alternative fuel	- Poor use of alternative fuel and FES - Selling of stoves - Theft of stoves	Beneficiaries know how to use FES and alternative fuel properly
Output 1.1.1: Timely promotion of cooking technologies and fuels in sufficient quantities	Number of trainings held on FES making	- Poor acquisition of skills by participants - Poor quality of training/lack of capacity by partners - Design drift if a training of trainers mode is considered	Beneficiaries understand the benefits of the new technology
	Number of FES produced (both household and schools)	- Lack of storage and distribution facilities	Beneficiaries understand the benefits of the new stove
	Number of FES distributed (both imported and locally produced) to both household and schools	- Poor uptake/maintenance of the technology by end users - Lack of sufficient resources to purchase large amount of stoves	Beneficiaries understand the benefits of the new technology
	Amount of fuel distributed/locally produced (both schools and household)	- Lack of sufficient resources to purchase large quantities of fuel - Lack of storage and distribution facilities	Beneficiaries understand the benefits of the new fuel

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SAFE Objective 1: To address the immediate cooking needs of the target population			
Results-chain	**Performance Indicators**	**Risks**	**Assumptions**
Output 1.1.1: Timely promotion of cooking technologies and fuels in sufficient quantities	Number of sensitization/training sessions held[58] on alternative fuels and FES (both schools, for example, cooks, and household)	- Poor uptake of the alternative fuels by end-users	Beneficiaries understand the benefits of the alternative fuels

SAFE Objective 2: To mitigate the protection risks confronted by women and children when cooking WFP food			
Results-chain	**Performance Indicators**	**Risks**	**Assumptions**
Outcome 2.1: Reduced exposure to protection risks[59] associated with firewood collection and access to cooking fuel	Number of reported incidents	- People afraid of retaliation/stigma/discrimination - Lack of capacity to deal with victims by police/security	- Referral and support mechanisms exist - Beneficiaries understand the benefits of the protection impact of the new technology and fuel
	Number of women and children benefiting from the reduced exposure: - Change in the number of collection trips/week prior/after stove/fuel - Change in the number of hours spent collecting firewood/producing charcoal prior/after stove/fuel - Distance to collection site - Percentage reduction in household fuel consumption since introduction of the new stove/fuel (also through Controlled Cooking Test and Kitchen Performance Test) - Perception of safety prior to/since the introduction of the new stove/fuel	- Collection of firewood/production of charcoal continue unabated	

58. This will vary depending on the type of fuel promoted and whether beneficiaries are engaged in its production and/or promotion.
59. Examples of risks typically associated with access to cooking fuel are: sexual and physical assault, robbery, humiliation, killing, sex in exchange for fuel, etc.

SAFE Objective 2: To mitigate the protection risks confronted by women and children when cooking WFP food			
Results-chain	**Performance Indicators**	**Risks**	**Assumptions**
Output 2.1.1: Awareness raising on protection and gender-based violence conducted	Number of participants in protection/GBV awareness raising sessions	- Collection of firewood/production of charcoal continue unabated	- Referral and support mechanisms exist
	Number of awareness raising sessions held by target community	- Poor quality of training/lack of capacity by partners	

Prevent acute hunger and invest in disaster preparedness and mitigation measures

SAFE Objective 3: To mitigate deforestation and environmental degradation associated with cooking fuel			
Results-chain	**Performance Indicators**	**Risks**	**Assumptions**
Outcome 3.1: Mitigated level of deforestation/environmental degradation	% of forest-based assets created, managed and maintained by communities/households	- Poor acquisition of skills by participants - Poor quality of training/lack of capacity by partners	Beneficiaries understand the benefits of forest/environmental conservation and protection
	% of women/men reporting improved access to forest/natural resources		
	Number of training held on sustainable use of forest/natural resources		
	% of beneficiaries receiving training on sustainable use of forest/natural resources		

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SAFE Objective 3: To mitigate deforestation and environmental degradation associated with cooking fuel			
Results-chain	**Performance Indicators**	**Risks**	**Assumptions**
Output 3.2.1: Community-based forest/wood-lots (re)established and maintained	Number of (new) wood-lots by target community/school	- Climate variability - Lack of sufficient resources for afforestation and reforestation activities	Beneficiaries understand the benefits of forest/environmental conservation and protection
	Percentage of tree seedlings used for afforestation and reforestation		
	Hectares of forest planted/number of trees		

Restore and rebuild lives and livelihoods in post-conflict, post-disaster or transition situations

SAFE Objective 4: Strengthening and diversifying people's livelihoods			
Results-chain	**Performance Indicators**	**Risks**	**Assumptions**
Outcome 4.1: Reduced reliance on woodfuel-intensive livelihoods	% of household income derived from woodfuel-intensive livelihoods prior/after	- Collection of firewood/production of charcoal continue unabated	Reduced consumption of woodfuel at the household level
	% of women/men reporting less reliance on woodfuel-intensive livelihoods		
Output 4.1.1: Assets/livelihoods developed/restored by target community/household	Number of participants (by sex) in livelihood-support/agriculture and farming/IGA training	- Lack of sufficient resources to support livelihoods diversification/restoration - Lack of functioning market - Climate variability	Beneficiaries understand the benefits of reduced reliance on forest resources
	Number and type of livelihoods developed/restored		
	Number of workers (by sex) in livelihood-support/agriculture and farming/IGA activities		

To reduce chronic hunger and undernutrition

SAFE Objective 5: To ensure adequate health and nutritional levels of assisted populations			
Results-chain	**Performance Indicators**	**Risks**	**Assumptions**
Outcome 5.1: Sufficient food consumption and dietary diversity reached and maintained by food supported households	Household food consumption score (both food frequency and dietary diversity)	Difficult to regularly monitor meals skipping and portion reduction	Beneficiaries receive the quantity and type of food they are entitled to
	% food sold/bartered/exchanged for fuel	Food sold/bartered/exchanged for other commodities	
	% change in dietary diversity prior/after stove/fuel		Beneficiaries understand how to use the stove/fuel efficiently
Outcome 5.2: Adequate health levels maintained by food supported households	Average % change in particulate emissions from cooking through use of FES per household	- Improper use of stove/fuel by beneficiaries - Shelters do not have ventilated or separate cooking facilities	Beneficiaries know how to use the stove/fuel properly
	% of women/men reporting less smoke in the household/respiratory diseases since the introduction of the new stove/fuel	- Improper use of stove/fuel by beneficiaries - Shelters do not have ventilated or separate cooking facilities	Beneficiaries know how to use the stove/fuel properly
Output 5.1.1: Sufficient food quantity and quality, including complementary and fortified food, ensured	Average number of meals eaten/day	- Difficult to regularly monitor meals skipping and portion reduction	Beneficiaries receive the quantity and type of food they are entitled to
Output 5.1.2: Capacity on efficient food preparation and cooking practices developed	Number of sensitization sessions/demos held on food preparation and efficient cooking practices	- Lack of sufficient resources (human and financial) to conduct sensitization/demos on food preparation and cooking practices	Beneficiaries understand the benefits of soaking, using lids, and so on

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SAFE Objective 6: To strengthen knowledge, skills, capacity, sustainability on programming on SAFE multi-dimensions			
Results-chain	**Performance Indicators**	**Risks**	**Assumptions**
Outcome 6.1: Improved capacity to address cooking fuel-related needs and concerns	Number of countries with an integrated cooking fuel strategy Number of inter-agency fora WFP participate to	- Lack of management commitment	WFP's SAFE programme is institutionalized
Output 6.1.1: WFP staff and partners trained on the SAFE approach including a component on GBV prevention and response	Number of staff and cooperating partners sensitized/trained on SAFE Number of SAFE-related sensitization/training activities held	- Poor quality of training/lack of capacity by partners - Lack of management commitment	

6

Implementation

Part III
Steps for programming

6

key concepts

6.1 Introduction to SAFE programme implementation

Implementation of a SAFE programme is a management process by which planned activities are translated into actions. This is may be done under the supervision of an individual, such as the SAFE programme manager. Or, it may be supervised by a group of individuals, such as a SAFE working group consisting of representatives from different intervention sectors.

In section 6.4, tools are provided to guide programme implementation. The term 'implementation' refers to starting up the activities needed to address the assisted population's cooking fuel needs. Examples of these activities include:

- Selecting the stove model;
- Identifying the most suitable mode of distribution;
- Training the population how to make and use fuel-efficient stoves, and teaching them about efficient fuel and food preparation practices;
- Promoting livelihoods that are non-wood-intensive, tree planting, and so on.

Responsibility for overseeing implementation rests on different people at different levels. As explained previously, SAFE should, ideally, be a bottom-up process that translates into a series of community-owned actions. Oversight at local level should come from community representatives – such as community outreach workers or mobilizers - or a body set up for this function. If the SAFE programme targets different groups within the community, the views and inputs of each group must be reflected and taken into account. Participatory planning, described in the previous section, should translate into participatory implementation.

Also at local level is another layer of governance whose function is to work with the local management, making sure that the programme gets off the ground and can be sustained. This layer consists of representatives of the implementing agency, such as the WFP SAFE programme manager and other relevant staff.

Experience shows that implementation is more successful if those tasked with carrying it out receive **continued training and support**. This is also true for beneficiaries. Changes in behaviour and attitudes will be needed when new practices or technologies are promoted. Regular support is essential. It preserves momentum and enthusiasm, and it also allows agencies to tackle teething problems and other practical issues.

The nature of the support will depend on the activity being implemented. Some activities may require beneficiaries to carry out the new practice indefinitely. An example would be using new cooking devices or cooking methods. Others, such as the establishment of a wood-lot, may require intense engagement in the short run, followed by less demanding maintenance and monitoring activity.

Besides the type of intervention, the level of familiarity recipients have with the activity they are required to undertake and its duration also define the support that is needed. Consultations with end-implementers can be useful to better defining the needs, the type, and the duration of the support required.

6.2 Elements of a multi-sectoral fuel response

Safe access to cooking fuel presents many challenges – hence the need for a multi-faceted approach. Ideally, a SAFE programme should include activities that address the following themes.

- **Livelihoods**. Reducing reliance on wood-intensive livelihoods such as firewood selling, charcoal production, brick-making for construction and brewing, etc. This is achieved by promoting more sustainable, equally profitable livelihood options.
- **Environment**. Regenerating the natural resource base through tree planting, establishment of tree nurseries, agroforestry, etc. These activities contribute to soil conservation and to disaster risk reduction.
- **Protection**. Preventing and mitigating the risks people face during firewood collection and charcoal production.

6.2.1 Livelihoods: reducing reliance on wood-intensive livelihoods

Even when women receive fuel-efficient technologies, they may not stop collecting firewood. They may still gather just as much; but, instead of using it themselves, they sell it. Recipients' continued reliance on income from firewood and charcoal risks wiping out the potential environmental and protective benefits of the new technology. This is why SAFE programmes must tackle the issue of livelihoods.

Other woodfuel-intense activities that are common in rural areas and displacement settings are brewing, brick-making for construction and shelter construction. For alternative livelihoods to be viable, they must generate as much income as woodfuel-intensive activities. Box 3 in the previous section lists some examples. WFP's *Food Assistance for Assets Manual* (2011) explains the rationale, context and planning, and implementation options for food-for-assets interventions.[60]

6.2.2 Environment

To meet survival needs, vulnerable households often adopt coping strategies that put a severe strain on the local environment. This is especially true in displacement settings. Natural resources, harvested previously only by local communities, cannot support a large, sudden influx of people, and ecosystems may swiftly collapse.

SAFE's environmental activities are designed to do three things:

- Stem the damage to the local environment. This involves promoting fuel-efficient stoves; safer, cleaner and more sustainable fuels; and alternative livelihoods.
- Repair the damage. Providing alternative stoves, fuels and livelihoods will give the environment a chance to recover. Regeneration activities, such as planting trees to stabilize soil and reduce erosion, can also help regenerate natural resources.
- Increase the environment's capacity so that they can support more people. Projects might include the establishment of tree nurseries, tree planting and agroforestry.

For more information on WFP's environmental activities, see WFP's *Environmental Guidelines*[61] and *Disaster Risk Reduction* policy.[62]

6.2.3 Protection

One of the key triggers for SAFE intervention is the protection risks people face while accessing cooking fuel. By providing fuel-efficient stoves, alternative

60. WFP (2011). *Food Assistance for Assets (FFA) Manual*. Rome: WFP.
61. WFP (1999). *Environmental Review Guidelines*. Rome: WFP.
62. WFP (upcoming). *WFP Policy on Disaster Risk Reduction and Management: Building Food Security and Resilience*. Rome: WFP.

energy sources, and safer livelihood options, WFP aims to reduce people's exposure to protection risks. Sensitization and awareness-raising activities on gender-based violence also help maximize the protective impact of SAFE. For further guidance, see WFP's *Protection Policy*[63], programming manual[64], and GBV prevention handbook.[65]

6.3 Implementing cooking energy systems[66]

Livelihood and environmental activities have been an integral part of WFP's portfolio for some time. However, not much guidance exists within the organization on household or institutional cooking energy and technology. This section aims to fill the gap, and expands on existing tools designed originally for other activities.[67]

Implementation involves three main elements:

- Deciding which type of stove and cooking fuel will be promoted;
- Training and sensitizing beneficiaries on how and why the new cooking technology and fuel should be used; and
- Setting up and organizing stove production and distribution.

63. WFP (2012). *Humanitarian Protection Policy*. Rome: WFP.
64. WFP (2012). *Protection in WFP's Operations – A Basic Guide to Mainstream Protection in WFP's Programme Cycle*. Rome: WFP.
65. WFP (2012). *Good Practices on Prevention of and Response to Gender-Based Violence in WFP Operations – A Handbook for Guidance*. Rome: WFP.
66. Refer to the 'Stoves fact sheet' and 'Fuels fact sheet' in Part 14 for an overview of stove and fuel options, their pros and cons, and their viability in various operational contexts. The term 'cooking energy system' encompasses all the equipment needed for cooking – the fuel, stove, utensils, pots, lids, and cutlery – as well as cooking behaviours and practices.
67. WFP tools include:
WFP (2003). *Food Aid and Livelihood in Emergencies*. Rome: WFP, WFP/EB.A/2003/5-A;
WFP (2009). *WFP Policy on Disaster Risk Reduction*. Rome: WFP, WFP/EB.1/2009/5-B;
WFP (Upcoming). *Protection Booklet*. Rome: WFP;
WFP (2012). *Protection in WFP's Operations – A Basic Guide to Mainstream Protection in WFP's Programme Cycle*. Rome: WFP; and WFP (2011). *Food Assistance for Assets (FFA) Manual*. Rome: WFP.
Non-WFP tools include: UNHCR (2009). FRAME Toolkit: *Framework for Assessing, Monitoring and Evaluating the environment in refugee-related operations*. Geneva: UNHCR.

The type of stove determines how the project is implemented. For example, if non-portable mud stoves are chosen then local artisans or end users could make them on-site. If a portable stove is chosen, it could either be manufactured locally or imported from elsewhere. In either case, a sound dissemination strategy should be devised that covers end user training, sensitization, and the logistics of distribution. Similarly, if a new cooking fuel is promoted and beneficiaries are not familiar with it, recipients will need to be taught how to use it safely and efficiently.

The following three sub-sections discuss these elements in more detail, explaining their linkages and the practicalities of implementation.

6.3.1 Types of stove and fuel

Even within the same refugee camp, with the same population cooking the same types of foods, there is often a need for different types of stove. Sometimes this may be because various kinds of fuel are in use; sometimes it may be because larger families use bigger pots and need broader stoves. Some women may be more willing, likely or able to maintain and repair mud or clay stoves. Some may prefer to cook indoors; others outside; some like to be able to move the stove around depending on the weather. Differences in age and customs will necessitate a variety of stove heights and designs. Some people prefer to sit or squat on the ground while cooking; others prefer to sit on a chair or stand. Purchasing power can also be a factor.

It may make sense to offer various stove models and allow users to select the one that suits them best. Different models can be displayed within the camp in a 'stove centre', and demonstrations can be given that outline the similarities and differences between them and explain each one's benefits. Stove centres can give out stoves free; or they can provide them via vouchers, or through food-for-work or food-for-training schemes. In reconstruction and recovery contexts, time allows more scope for choice. In emergency situations, however, options may be limited by the need for a quick-fix solution.

Most experts[68] agree that efficiency should be balanced against sustainability and recipients' capacity to effectively and efficiently use the stove and fuel. Implementing agencies must acquire a sound understanding of the needs and preferences of the target populations. They must also ensure continued training on how to use the new device and then monitor uptake. The cooking

68. The considerations reported in this section reflect the opinions expressed by experts and practitioners from various organizations during the SAFE Workshop organized by WFP in September 2010.

needs and habits of end users must be taken into consideration; however, they should not become a barrier for the promotion of positive behavioural change.

Experience suggests that promoting fuel-efficient stoves to the target population has been a challenge. This results in poor uptake and usage of new devices. To be effective, the 'sales pitch' must be well structured. It should clearly explain – and demonstrate – the benefits of using the new technology. Emphasizing protection benefits, improved health, environmental benefits, safety and saving, etc. will resonate with end users and help counter their fear of change.

For example, three new models were introduced to women in Dadaab refugee camp in Kenya. The stoves – Envirofit, JikoPoa, and Save80 – have small combustion chambers and users must constantly feed the fire. The women were concerned because they would have to concentrate on keeping the fire going rather than do other things. It was explained to them that although they would have to devote more time to their stoves, this would be offset by the time they gained from not having to collect so much firewood.

Other key considerations when deciding on the stove are: the setting where activities are going to be implemented; and the priorities, goals and duration of the intervention. For instance, a market approach aiming at income and employment generation from stove production is more suited to transition and development settings and to long-term interventions.[69]

69. For a comprehensive review of the factors that should be taken into account when planning a cooking energy intervention refer to the GIZ HERA Cooking Energy Compendium https://energypedia.info/index.php/Content_of_Planning_Cooking_Energy_Interventions#Selection_of_production_system, accessed 7 February 2012.

Box 4: ACRA's experience in Chad with the Centrafricain stove – building on local habits

Chad is a least-developed, low-income food-deficit country trapped in refugee and internally displaced person crises. It suffers from severe deforestation and recurrent droughts. In 2009, the Chadian government banned the production of charcoal. At present, Chadians must rely on wood and gas – mainly LPG – for cooking. While the former degrades the already damaged and fragile environment, the latter is too expensive to be affordable for all.

In 2007 ACRA, an Italian NGO, in partnership with CeTAmb (University of Brescia), set up a project for the sustainable management of the environment to tackle deforestation and household energy crisis in the Logone valley in Chad, at the Cameroon border. As well as other environment-related activities,[70] ACRA trained local smiths to produce and disseminate the **Centrafricain stove**.

This is a model adapted from a previous fuel-efficient stove introduced in the 1980s and '90s by a joint French and Dutch initiative. A local research centre, Centre des Technologies Appropriées de Maroua, inserted a clay ring between the combustion chamber and external metal drum, thus adapting it to local needs and cooking habits.

The local staple food, *boule*, is a porridge made of millet or sorghum flour that requires hard stirring. The original stove model could not withstand such vigorous activity and would invariably crack or topple over. The clay ring introduced by the research centre increased the stability, resilience, and efficiency of the stove.

Local people use round-bottomed pots, but the original stove could not accommodate them. This made it hard to cook with locally available utensils. The Centrafricain solved this problem. And, to ensure portability, which is fundamental for indoor cooking in small places, two handles were added.

All the improved stoves available locally were tested, and the Centrafricain proved to be the most efficient. It was also compared with the traditional three-stone fire. Against this, it reduced household wood consumption by 55 percent per year, and fuel expenditure by 37.5 percent. In short, a household using the Centrafricain stove instead of a three-stone fire can save 1.9 tonnes of woodfuel a year, and lower their CO_2 emissions by 1.8 tonnes. The Centrafricain stove also conforms to WHO's guidelines on carbon monoxide (CO) concentration,[71] used to measure indoor air pollution.

70. For further information on the activities implemented within the project see http://www.ing.unibs.it/~cetamb/images/stories/Sito_CeTAMb/Convegni/sessione_settimo/Sessione%201%20pom/Filippini.pdf, accessed 20 July 2011.

71. WHO's 2010 *Guidelines for Indoor Air Quality: Selected pollutants* set the limit of carbon monoxide emissions at 35 mg/m3 per hour. Peak emissions from the Centrafricain stove are about 25 mg/m3 per hour.

Many households rely on a mix of different fuels. However, in communities where WFP operates, the most vulnerable tend only to use firewood and charcoal. Unlike other fuels, these are usually cheap and easily accessible. Yet, they are often not burnt efficiently, supply is often not sufficient and sustainable, and collection places a heavy burden on women and children and exposes them to protection risks.

With woodfuel becoming scarce, organizations and users have begun to explore alternative, such as briquettes, ethanol, solar energy, kerosene, LPG, biogas, and biodiesel. The nature and use of each of these fuels is different, and availability varies depending on the context. Careful analysis is needed when deciding which can be introduced. The pros and cons of each fuel are summarised in the fact sheets at the end of this handbook. A few general observations on their viability in the context of assistance programmes are summarized here.

LPG and kerosene are relatively expensive and scarce, and they are often not available in displacement settings. They are an option only if subsidized or distributed as part of an organized fuel supply programme. Other challenges prevent their use in most assistance programmes. LPG appliances and cylinders are expensive, and so is refilling. This is why LPG is not widely used in most of the poorer areas. Kerosene, on the other hand, does not always represent a real alternative to woodfuel. Because of its high market value, beneficiaries tend to sell it and continue using firewood and charcoal. Furthermore, the amount distributed is often not enough for both households' lighting and cooking. Also, it smells and is a fire hazard, especially when used with stoves that are too small to accommodate big family-size pots.

Briquettes are composite blocks, consisting mainly of biomass such as crop residues, food waste, grass or animal dung. They may be a viable alternative to firewood and charcoal and may also constitute a livelihood alternative for beneficiaries. They also help keep densely populated refugee or IDP camps clean and hygienic. However, the means of manufacture requires an investment up-front, and usually this must be made by humanitarian agencies. Briquettes are made in a device that compresses biomass into a solid product and then slices it into chunks. The main practical disadvantage is that small, manual briquette-making operations cannot meet high demand. Larger-scale production needs much more feedstock, and, if fully mechanised, electricity.

Biogas is produced when organic material biodegrades in anaerobic conditions. Feedstock is 'digested' in an airtight tank, and the resulting gas is captured. Biogas technology sanitizes waste, including excreta, and using waste

in this way can lead to improvements in sanitation and environmental conditions. The gas fuels stoves and lamps, and the liquid and solid by-products are high-quality fertilizers. However, digesters are large and need plenty of space, feedstock and water. A high initial outlay prohibits large-scale introduction and use of biogas in most operational contexts.

Solar cookers. Because sunlight cannot be produced on demand, solar can only complement, not replace, stoves and fuels used by a household. Efforts to introduce solar cookers have had mixed results. Even in contexts where biomass is not widely available, the changes needed in traditional cooking practices have often prevented solar from becoming an attractive alternative.

Biofuels, such as ethanol or plant oil, are relative newcomers to the list of potential fuels, and they are increasingly being considered for cooking. Biofuels generally produce low emissions, are clean to handle and easy to transport. However, on a global scale, mass-production of biofuels risks diverting a vast amount of farmland and crops away from food supply. The extent to which this is contributing to the high volatility of food prices is not yet known,[73] and debate continues as to whether biofuels are either an ethical or sustainable alternative to traditional fuels.[72]

6.3.2 Training and sensitization

Whichever cooking device or fuel is selected, end users must be taught how to use and maintain the system properly. As well as the initial introductory training, refresher courses and support should be offered throughout the life of the programme. Strict quality controls must apply. Managers should regularly monitor local trainers to ensure consistently high standards. In self- or community-help contexts, stoves made by recipients must be checked.

Constant monitoring and rigorous quality control methods are needed to ensure high-level standards and good stove performance over time and across recipients.

Training on stove making can be used as an entry point for sensitization on other relevant aspects of the SAFE programme. These include: GBV prevention

72. UNHCR (2002). *Cooking Options in Refugees Situations*. Geneva: UNHCR, 35.
73. For the benefits of jatropha as biofuel refer to http://www.fao.org/news/story/pt/item/44142/icode/en/, accessed 7 February 2012. See also FAO (2008). *The State of Food and Agriculture 2008 – Biofuels: Prospects, Risks and Opportunities*. Rome: FAO, 15.

and response; environmental regeneration, conservation and protection; and fuel and food preparation practices. Training sessions should also promote safer and more sustainable livelihood options, and sensitization on health and nutrition.

The exact nature and duration of the training scheme will depend, in part, on whether the stove will be imported or whether it will be manufactured or assembled on-site. Another important consideration is the extent of behavioural change required. Generally speaking, the greater the change in the users' cooking practices, the longer and more intense the training will have to be.

Considerable investment in staff time and resources is needed for new stoves to be used to their fullest potential. Programme managers should try to capitalize on existing expertise and experience of other actors on the ground. Even then, a significant investment may still be required and should be factored in to plans for an energy intervention.

Training extends far beyond teaching people how to build and use the new fuel-efficient stove. Communities must be sensitized, through mobilization and outreach strategies, on energy-saving cooking practices. Food and fuel preparation demonstrations will encourage adoption, dissemination and effectiveness of the new technology. Depending on the context and culture, display centres, seminars, and radio and TV spots should all be considered for use. Strategies to raise awareness on sensitive topics like gender-based violence, or to trigger behavioural change should also be put into action.

Finally, it is important to note that introducing fuel-efficient stoves into institutions requires as much training as implementing them at household level. Cooks will need to be trained; so too will other stakeholders. In schools, activities must reach the parent-teacher association and everyone involved in managing and delivering the feeding programme. If **micronutrient powder** is being used in the school feeding programme, special care should be taken to train cooks to sprinkle the micronutrient powder when food is not boiling. Sprinkling micronutrient powder in a boiling pot of food may destroy micronutrients. Monitoring on this issue should also be done.

Box 5: Relevant training topics

Relevant training topics regarding the FES and fuels, and fuel and food preparation practices include:

- Stove construction (preparation of materials for constructing a FES, stove construction)
- Cooking energy preparation, manufacturing (for example, compression of briquettes), and use
- Post construction (finishing the stove)
- Stove firing and operation
- Stove promotion
- Pricing
- Quality control
- Energy-saving cooking practices

6.3.3 Modes of production and distribution

Training-of-Trainers (ToT), also known as Self-Help or 'Do-it-yourself'

In the ToT model, an employee from a technical agency selects a group of women and men who will become master trainers. The groups are taught how to make a fuel-efficient mud stove. They are then sent out to teach neighbours and family members the same skill. Note that the stove design must be tested prior to training in order to ensure that it is indeed fuel-efficient and that it will suit the cooking practices of the target population.

The primary benefit of this production and distribution model is that it is sustainable, replicable, and adaptable to different needs and cooking practices. Knowledge spreads and, eventually, all displaced women and men learn how to make their own stove. If their stove breaks, they can make another one. In displacement settings, this also ensures that the technology can be replicated as people return to the place of origin.

Because this method uses only local materials and engages beneficiaries to train others, the stoves are very cheap to make. Varying the design is simple and stoves can easily be adapted to accommodate families of different sizes or users with different needs. Note, however, that any variations are, essentially, new designs and will require testing to ensure fuel-efficiency.

The drawback of the ToT model is that unless trainers are constantly followed up and monitored by skilled stove-makers, quality can quickly become a problem. Often, the first group of trainees does a good job, producing an efficient stove to the correct specification. However, further along the chain, mistakes start to creep in. Quality suffers and fuel efficiency declines.

If new stoves are inefficient and of poor quality then users will not appreciate the benefits of fuel-efficient stoves. The same may also be true when designs are modified but not tested. Design drift may reduce efficiency.

Constant monitoring is essential to ensure take-up and sustainability. If it is not possible to monitor trainers then another strategy will be needed. For example, in North Darfur and Uganda ToT in its original format was met with some challenges. To counter the shortcomings of master trainers, moulds were introduced to ensure stove standardization and quality.

Artisanal production

In the artisanal model, a group of skilled craftspeople are trained by an expert stove maker and paid to build several stoves – usually of mud. The devices might be portable, made for distribution; or, they might be fixed stoves, constructed in the end user's homestead. In development settings, artisanal production tends to be more like an ordinary business. Stoves are built in local workshops and then sold directly to customers.

The advantage of the artisanal model is that the skills of the stove-makers and quality of the stoves can be closely monitored. The end results are often better and more consistent than those made in ToT schemes.

However, because fewer people are trained, skills are not widely transferred. And, because stoves must be purchased from the stove-makers, costs to the agency and beneficiaries can be high.

There can be capacity limitations, too. For instance, Sri Lanka has a long-standing experience of fuel-efficient stove production and use. In the Northern Province, however, local potters lack the equipment and skills to produce enough stoves to meet high demand from displaced people and returnees. In partnership with the Government and the local NGO Integrated Development Association (IDEA), WFP has trained potters in their own villages, throughout the Province, and helped them to upgrade their workshops and increase production capacity and quality.

Importation and local assembly

ToT and artisanal models tend to use locally-available materials to make basic mud or clay stoves. In some regions, however, even clay (or the animal dung mixed into mud to make it elastic enough to be moulded and dried) can be difficult to find. Sometimes, neither mud nor clay stove models can achieve the desired efficiency level.

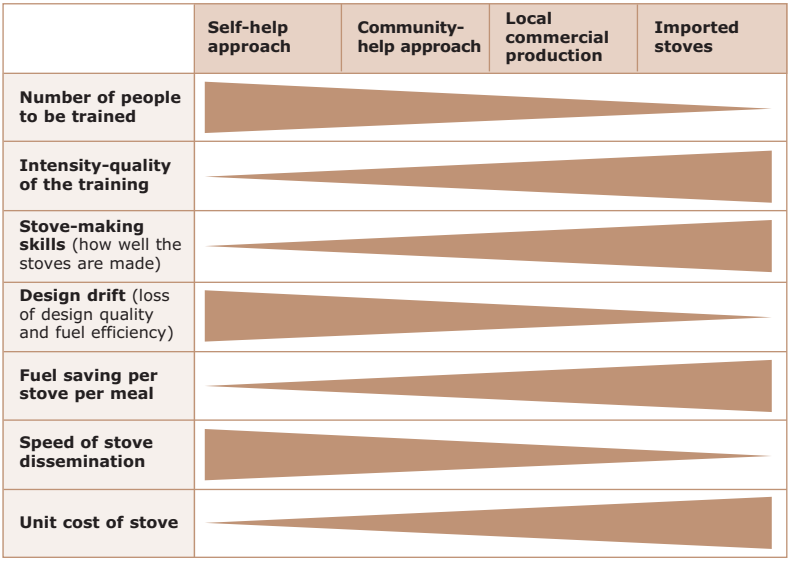
These production models may not be feasible at the onset of an emergency. Often there is no time to train stove producers locally, and access to locally-made stoves may be hampered. In such cases, importing stoves is the only option. Some imported stoves arrive fully assembled, ready for distribution. Others arrive in kit form and refugees and/or host communities are employed to assemble them on site.

The advantage of importing stoves is that the efficiency level of factory-produced stoves is often quite high, and quality is easier to monitor and guarantee. However, mass-produced models are almost always more expensive, and only in very rare instances can they be replicated locally. Often, even the smallest repair requires special parts or tools and these, too, have to be imported. Unless an imported stove can be maintained and repaired cheaply, the cumulative costs are prohibitive and the distribution model is unsustainable. In some cases, users simply dismantle the stoves and resell the parts. The raw materials, especially metal, can have a very high scrap value.

Figure 4, below, summarises the considerations discussed in this section. The diagram is provided to encourage field staff to weigh up all the variables before deciding which approach is best for their context. More information on the pros and cons of different approaches can be found in the section Emerging Approaches and Lessons Learned.[74]

74. In Figure 4, the row 'Unit cost per stove' compares the stoves' market value. However, consider also the financial and human resources needed to train people to make energy-saving stoves, and for follow-up activities. The aggregate cost may be higher than that of importing and distributing factory-made stoves.

Figure 4: Advantages and disadvantages of different distribution models



Distribution of stoves can be organized either centrally or through multiple sites. The method is determined by several factors, including: the quantity of stoves to be distributed; distance to beneficiaries; and security conditions. Whichever process is chosen, caution is needed to ensure that distribution occurs smoothly and in an orderly fashion, and that recipients are trained on how to use and maintain the stove.

Special care should be paid to packaging fragile stoves, such as those made out of clay or mud, especially when they are to be transported long distances on bad roads.

6.4 Tools

6.4.1 Fuel-saving cooking practices (adapted from USAID Toolkit)

This tool can be used to train beneficiaries on proper use of the cooking devices and utensils, as well as fuel and food preparation as means of enhancing stove efficiency and saving on fuel.

Fuel-saving cooking practices

The way the stove and cooking utensils are used and how the fuel and food are prepared have an impact on fuel reduction. Below are tips that beneficiaries, if properly trained, can easily adopt, to enhance the efficiency of fuel-efficient stoves.

Pot Management

- Use a tight-fitting lid to retain the heat inside the pot. If the lid is not tight enough, put a heavy object on top of it.
- Adapt as much as possible the size of the pot to the quantity of food to be cooked (e.g. do not use a big pot for a small quantity of food).
- Use a pot of the most appropriate material for the food to be cooked (e.g. metal is very good for boiling water or frying, since it heats up quickly, but it retains little heat, thus for slow cooking food clay pots are more suitable).
- Pot size and shape should be fitting the stove as much as possible.
- When two pots are available, it is advisable to begin warming a second dish by placing it on the top of the main pot.

Stove/fire management

- Do not overstuff the stove with fuel. With air flowing less easily, it reduces the efficiency of the combustion and increases the amount of fuel needed to cook. Overstuffing can also produce an excess of smoke, cause indoor-air pollution, and can damage the stove.
- Cook in a place protected from strong wind that may cause the fire to burn too quickly, to produce too much smoke and it may cool down the food in the pot.
- Maintenance is important. A dirty or broken stove has a negative impact on its performance.

75. Thin pieces have a larger surface per weight of wood. As firewood burns only at the surface, it can burn easier with many thin pieces than with one big piece.

Fuel management

- Dry firewood burns more efficiently and completely, producing less smoke.
- Thin pieces of firewood burn faster and more completely than large logs.[75]
- Completely extinguish the fire through stirring the wood and ashes when cooking is done.
- If properly extinguished, the remaining of the burnt firewood can be further used for cooking.

Meal planning

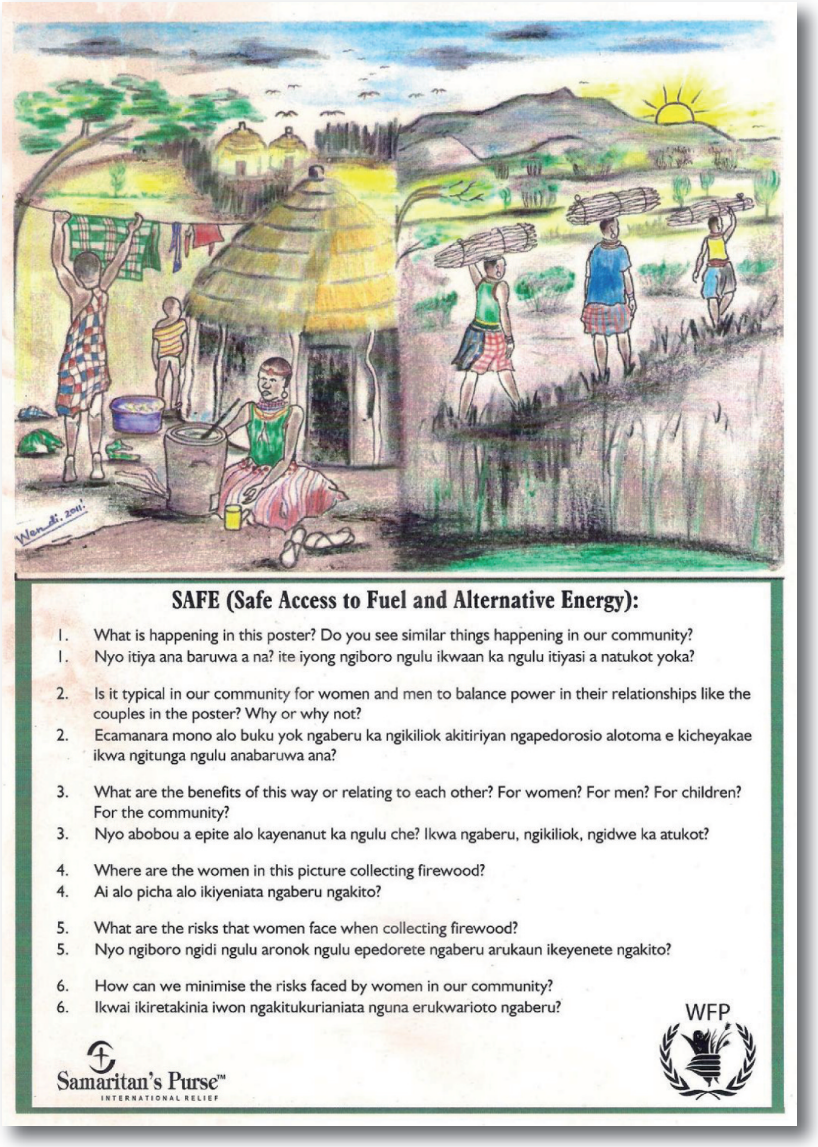
- Pre-soaked beans and grains are easier and faster to cook, thus reducing fuel consumption.
- Use tenderizing methods – filtering water through ash to cook beans.
- Prepare all ingredients before lighting the fire.

Additional cooking technologies

- Use hay baskets or any other type of heat-retention cooker as well as solar cooker beside stoves to the extent possible.

6.4.2 Sample outreach material

The drawing below by a local artist is used in the Karamoja region of Uganda during training of trainers on fuel-efficient stove making to sensitize participants on GBV risks associated with firewood collection.



7

Monitoring and evaluation

Part III
Steps for programming

7

key concepts

7.1 Monitoring

Monitoring starts when implementation begins, and continues throughout the life of the programme. Its purpose is to:

- Measure progress against the programme's objectives;
- Build on successes; and
- Remedy problems or flaws in programme design.

The process is based on the logical framework (see section 5.4.5) produced by those who planned the programme. It compares initial objectives and expectations with actual outcomes, and informs adjustments and future programme designs.

It is crucial to put in place robust systems that ensure regular and timely collection of relevant information – both quantitative and qualitative. Data must be recorded, analysed, and acted upon.

Box 6, below, provides a quick overview of some of the most important programme components that need to be monitored regularly.

Box 6: Key SAFE indicators to be monitored

- **Inputs:** seedlings, moulds, tape measurers, stove construction materials, technical expertise, etc.
- **Outputs:** number of ToTs, number of stoves, number of trees planted per acre, etc.
- **Population reached:** who, what, and where.
- **Partners:** performance, capacity, etc.
- **Acceptability and usability** of fuel-efficient stoves and alternative cooking fuel.
- **Stove performance:** Water Boiling Test, Controlled Cooking Test and Kitchen Performance Test results.
- **Impact** on SAFE core areas of intervention: protection, environment, livelihood, health and nutrition.

The process of delivering the SAFE programme should also be monitored. It should focus on the elements listed in Box 7 below.

Box 7: SAFE Process Monitoring

- **Institutional arrangements:** mechanisms for service delivery, key constraints and incentives, the role of stakeholders, and inclusiveness;
- **Awareness-raising and motivation building:** participatory approaches to community mobilization;
- **Technology adaptation:** methods of promoting improved cooking technologies. These include capacity building in production/assembly; cooking demonstrations; stove maintenance; user feedback systems; and quality control.
- **Financial and managerial aspects:** funding and management issues, monitoring capacity, etc.

Testing and monitoring stove efficiency

It is essential, also, to monitor the technical performance of the proposed cooking device. In fact, this is often a donor requirement. Equipped with the stove's efficiency rating it is possible to estimate how much fuel consumption should drop when new stoves replace traditional ones. This allows agencies to forecast how effective SAFE might be in the core areas of intervention: protection, environment, livelihood, health and nutrition.

Stoves are tested using three, internationally-agreed protocols that measure efficiency, emissions and safety. These are:

- The Water Boiling Test (WBT)
- The Controlled Cooking Test (CCT)
- The Kitchen Performance Test (KPT)

Each of these measures fuel-efficiency in a different manner. Table 2, below, summarises the tests' protocols, objectives, and pros and cons. [76]

76. The information summarized in this table was sourced from protocols posted online at: http://www.aprovecho.org/lab/pubs/testing, accessed 9 May 2012.

Table 2: Technical testing protocols for fuel-efficient stoves

	Water Boiling Test (WBT)	Controlled Cooking Test (CCT)	Kitchen Performance Test (KPT)
Protocol	A certain amount of water is brought to the boil and kept simmering for a given period of time. This test can be done both in a lab and in the field.	A comparison between a FES and the traditional way of cooking is performed while a local cook prepares traditional food.	*Longitudinal study:* daily fuel use measurement for a week each of both the traditional and the improved stove. *Case-control study:* comparing fuel use in two groups of families for a week, one using the traditional stove and the other the improved one.
Objectives	Understand how the heat is transferred from the fuel to the pot and measure the emissions during this process.	Compare the fuel and time needed to cook a local food and investigate whether the local cooks like the way the stove cooks it.	Evaluate the effect of the stove intervention (strengths and weaknesses of the improved stove's performance) in real-world conditions.
Pros	• Simplicity • Replicability • Quick data for stove improvement during the development process	• Different stoves can be compared • Cooks can express their preference concerning stove models	• Appraisal of actual consumption of fuel during daily cooking with the improved stove • Important to obtain carbon credits, as it measures the actual daily fuel saving
Cons	• Only rough approximation of real cooking	• Difficult comparability amongst different contexts • Cooks need to be experienced in using all the stoves to be compared • Need at least 3 test series (3 improved and 3 traditional) and 3 cooks to be statistically relevant	• Long duration (8 days) • Possible bias derived from sampling and fuel provision

Because technical performance tests require some degree of technical skill, the task is assigned to external experts. Tests done in the field are often preferable as they offer a better reflection of how stoves actually perform on the ground. Field-testing can also be adapted to the local context to measure the actual fuel efficiency of the proposed stove under the conditions in which it will be used.

Monitoring stoves in institutions

There may be specific monitoring requirements attached to introducing institutional fuel-efficient stoves in schools benefiting from school feeding programmes. These will involve gathering feedback from cooks, parents and other community members on a number of different questions, including:

- Is the new stove beneficial?
- Do the energy savings translate into cost savings – and what is the school spending the money on?
- Do cooks spend more or less time cooking?
- Is less time spent collecting fuel for cooking?
- Are more children attending school?
- Are children and parents still experiencing violence connected with fuel collection for school?

It is important to keep in mind that the implementation of SAFE activities at the school level involves several groups of people: cooks, children, parents and teachers. As with the assessment phase of the programme, monitoring needs to account for all of them.

7.2 Evaluation

Evaluation is a management and learning tool. It is used to measure the relevance, effectiveness, efficiency, impact and sustainability of a given programme. Analysis of data from the monitoring process allows comparison of expected and actual accomplishments. By examining results and processes, it is possible to identify factors that contributed to successes and failures.

Whereas monitoring is usually an internal process, evaluations are often commissioned from a third party not directly involved in the programme. This ensures transparency and independence. Evaluations strengthen accountability for the work carried out and results achieved. They also enable

agencies – and the humanitarian sector in general – to learn from experience. These lessons inform future decisions on policy and programming.

A SAFE programme evaluation should focus on the programme's impact on the core areas of intervention: protection, environment, livelihood, health and nutrition. However, the evaluation should also leave room to capture unintended consequences (beneficial or otherwise) of SAFE. Evaluation also needs to determine:

- Whether achievements and impacts match those predicted in the logical framework;
- Whether actual targets are the same as those originally anticipated;
- Why either of the above is different;
- Whether the programme in its current form is sustainable long-term;
- Whether there is potential for scaling up the programme;
- Lessons learned.

There may be many reasons why outcomes do not match expectations: lack of capacity; cost-effectiveness; beneficiaries' satisfaction and take-up; impacts at household level; and, of course, changes in the situation on the ground. The latter is especially likely in conflict or disaster contexts. However, anything that is relevant should be captured and recorded.

Here, sustainability refers to the programme's potential to continue after the planned cycle. For sustainability to be ensured, community ownership and local government and civil society involvement must be established and secured.

Both quantitative and qualitative methods can be used for evaluation: both will produce meaningful results. If resource limitations restrict the process then methods should be chosen according to their suitability. Quantitative methods are better suited to medium-to-large-scale and technology-focused interventions where information can be standardized. Qualitative approaches, on the other hand, capture information on beneficiaries' attitudes, behaviours and perceptions – in other words, data that a purely numerical approach cannot record.

By collecting together and comparing information collected through diverse methods, the impact of the intervention can be understood more clearly. For instance, comparison of stove performance data with fuel expenditure can reveal whether beneficiaries are still using traditional stoves alongside the fuel-efficient ones. If they are, further measures can be introduced to address issues that may be discouraging people from using the new devices.

This example illustrates why it is so important that monitoring and evaluation addresses every facet of the SAFE intervention, and that data is compared.

7.3 Tools

7.3.1 Ongoing monitoring and reporting form

WFP often operates in highly volatile and dynamic environments. Regular monitoring ensures that programmes remain relevant to the context and respond to changing needs. Given that a large number of stakeholders may be involved in a SAFE programme, each with specific tools and procedures, conducting M&E of all the activities can be challenging.

The tools below are proposed to support field staff in monitoring SAFE related activities and ensure regular sharing and documentation of relevant information. While trying to avoid excessive standardization and rigidity, for consistency's sake –and as a way to consolidate the practices and experiences from various operational contexts and actors – users are encouraged to use the forms proposed here.

Progress report – SAFE

COUNTRY: _____

MONTH: _____ YEAR: _____

This report is meant to collect constantly data on SAFE programmes. This will ultimately enhance the response capacity to issues related to SAFE, like collection of firewood in humanitarian settings, protection, environment degradation, livelihoods, health and nutrition.

If SAFE-related responses are to be improved, data on ongoing projects need to be shared. Therefore, please take some time each month to fill in this report and share it with your colleagues. Please read the instructions carefully and answer as thoroughly as you can. At the end of the form, you can find a glossary that may be useful to complete this report.

Before starting with the monthly progresses made, please give an overview of the SAFE programme implemented in your country.

When did the SAFE programme begin? _____
When is it going to end? _____

What types of activities did you decide to implement?[77] _____
How many beneficiaries are to be reached? Planned _____ Achieved _____
What budget expenditure did you plan to spend? Please give a precise figure in US$ _____

Please fill in the following two tables and, if necessary, provide further information in the open question at the end of this form.

Sector of Intervention[a]	Brief description of activities[b]	Beneficiaries		Implementing partners	Remaining needs[c]
		Number reached in past month	Number reached since beginning		
1.					
2.					
3.					
4.					
5.					

a. Please choose from the following sectors:
- FES production/distribution (please specify whether activity targets households or WFP-assisted schools)
- Protection
- Environmental rehabilitation
- Livelihoods
- Health and Nutrition

b. In this column, please describe in details the activities implemented. Include also achievements in the last month and locations where activities have been set up.

c. Indicate here what you may still need in order to successfully implement the activities. Examples include or budget/staff-related requirements, sensitization, trainings, campaigning, etc.

77. Here give just an idea of the activities implemented. You will be asked about a detailed description of them in the next page.

Please describe the major challenges encountered while running each activity. Try to be as comprehensive as you can, including all kinds of challenges the project has encountered. Please also outline proposals for further activities to overcome the problems.

Please match the numbering of the activities with the numbering used in the table above.

Challenges	Proposed activities
1.	
2.	
3.	
4.	
5.	

Additional information. If you wish to add further details about the programme's SAFE activities, please do so here. *The aim of this section is to collect any key element useful to enhance SAFE activities in your or other countries.*

Glossary

Environmental rehabilitation
This indicates all those activities aimed at re-establishing an environmental balance through, for example, tree planting, establishment of tree nurseries and gardening.

FES production/distribution
This includes all activities aimed at providing beneficiaries with more efficient or improved cooking devices, either through capacity building in production or through dissemination of existing cooking devices.

Health and Nutrition
This includes all activities which aimed at improving both beneficiaries' health by reducing indoor air pollution and their nutritional situation through more efficient cooking.

Livelihoods
This refers to livelihood-related activities such as the collection and processing of waste into briquettes, stove factories, beneficiaries-led shops and so on.

Protection
This term refers to all activities aimed at mitigating risks related to firewood access faced especially by women and children. Risks refer mainly to GBV, which includes rape, harassment and sexual exploitation; physical assault, including beating, robbery, intimidation, humiliation but also killing; and landmines and unexploded ordnances.

7.3.2 Indicators

SAFE programmes include activities that are already part of WFP's mainstreamed programmes (e.g. school feeding, livelihood, and environmental interventions). The primary source for corporate and project-specific indicators for monitoring and reporting on SAFE is WFP's *Indicator Compendium*. However, given the paucity of stove/fuel-related indicators, some suggestions on possible additions are provided below as well as in the logical framework (see tools section Planning and Design). Drawing on experience from the field and consultation with both WFP and external experts and practitioners,[78] these indicators were chosen for their relevance and possible inclusion in WFP's corporate indicators' list. The combination of current and (additional) proposed indicators provides a flexible tool, which can be adapted and modified to meet the SAFE monitoring requirements in diverse situations.

SAFE indicators

The outputs measured with the below indicators are all expected to be 'numbers'. It is always useful, however, to compare the outputs with what was planned, in order to have an overview of the programme's progress. Thus, it is advisable to transform all measured outputs in percentages referring to the planned objectives.

Type of Activity	Indicator (output)	Unit
FFA/FFW	No. of FES/briquettes centres established/supported	Number
FFA/FFW	No. of local producers trained on FES making	Number
FFA/FFW	No. of participants trained in FES making/maintenance	Number
FFA/FFW	No. of SAFE-related IGAs/livelihood options promoted	Number
FFA/FFW	No. of different types of SAFE-related assets promoted	Number
FFT	No. of beneficiaries targeted with mine awareness education	Number
FFT	No. of beneficiaries trained in improved food preparation practices	Number
FFT	No. of beneficiaries trained on fuel preparation and storage	Number
FFT	No. of beneficiaries trained on sustainable natural resources management	Number
FFT	No. of beneficiaries trained on the use and maintenance of the cooking technology	Number
FFT	No. of participants in SAFE training	Number

78. A first set of indicators was initially discussed during the SAFE workshop organized by WFP in September 2010. In addition, consultations were held with GTZ and Mercy Corps as well as with relevant units within WFP to check feasibility and appropriateness of the proposed indicators. It is important to note however that these indicators have not yet been integrated in WFP's *Indicators' Compendium*.

7.3.3 End-of-programme assessment (household/individual level questionnaire)

The following questions can be used to follow up the information gathered during the assessment (and subsequent phases of the programme cycle) to gauge the effectiveness of implemented SAFE-related activities. When collected and analysed, this information can be used for reporting both to HQ and to donors, for programmatic improvements to the intervention, and for advocacy and fundraising purposes. They could also feed relevant information into an evaluation. Questions are organized around the topics used for the assessment, keeping in mind the four main objectives of the SAFE programme: 1) to reduce populations' risks to gender-based violence (and other protection risks), fire hazards, burns, and health problems; 2) to mitigate environmental degradation; 3) to promote livelihood options; and 4) to ensure school attendance and feeding.

End of programme assessment

What has changed since the SAFE programme started?

DATE, LOCATION: _____

INTERVIEW CONTEXT (location, camp/village, etc.): _____

FUEL AND STOVE *[Unless specified differently, questions can be adapted to investigate the impact of both household and institutional stoves]*

1. What fuel did you use before using the new stove?

- ❑ Firewood
- ❑ Charcoal
- ❑ Kerosene
- ❑ LPG
- ❑ Briquettes
- ❑ Agricultural waste
- ❑ Dung
- ❑ Other, please specify _____

2. What fuel do you use <u>now</u> with the new stove?

- ❑ Firewood
- ❑ Charcoal
- ❑ Kerosene
- ❑ LPG
- ❑ Briquettes
- ❑ Agricultural waste
- ❑ Dung
- ❑ Other, please specify _____

3. Are you using the (new) stove? [YES/NO] If not, why? *[It is recommended to complement this with a physical inspection of the stove to check whether it is actually there; there are signs of use; it was recently used; it is broken; and so on]*

4. For how long have you been using the (new) stove? *[Also which part of the daily have been prepared with this stove]*

- ❑ 0-3 months
- ❑ 3-6 months
- ❑ 6-12 months
- ❑ More than 12 months

5. Please indicate the main advantages of your (new) stove. *[List a maximum of three in order of importance]*

- ❑ Fuel saving/less time spent collecting firewood or less money spent on purchasing fuel
- ❑ Cook fast/less time to cook meals
- ❑ Safe to cook with/less fire hazards and/or burns
- ❑ Less smoke, respiratory and eyes problems
- ❑ Save money (for reasons other than buying cooking fuel)
- ❑ There are no advantages
- ❑ Other, please specify _____

6. If not satisfied, please indicate why. *[Check all that apply]*

- ❑ Food does not taste good
- ❑ Food does not cook well
- ❑ Food takes longer to cook
- ❑ The stove is difficult to use
- ❑ The stove produces more smoke

❑ The stove uses as much fuel as the old one
❑ The stove is not attractive
❑ Other, please specify _____

7. Please indicate the main advantages of the new fuel. *[List a maximum of three in order of importance]*

❑ Cooks faster
❑ Less smoke, respiratory and eyes problems
❑ Safe to cook with
❑ Easy to use
❑ Attractive/high social status
❑ Tradable commodity
❑ Other, please specify _____

8. If not satisfied with the new fuel, please indicate why. *[Check all responses given]*

❑ High price
❑ Poor availability
❑ Difficult/dangerous to store or use
❑ Does not smell good
❑ Culturally unacceptable
❑ Other, please specify _____

9. How do you measure the fuel saving?

❑ Fewer collection trip
❑ Less money spent
❑ Fuel lasts longer
❑ Other, please specify _____

10. If cooking fuel is collected, how many times per week did you go before you began using the (new) stove? *[Check one option only]*

❑ 0-3
❑ 4-6
❑ 6-12 months
❑ More than 6

11. If cooking fuel is collected, how many times per week do you go now using the (new) stove? *[Check one option only]*

- ❑ 0-3
- ❑ 4-6
- ❑ 6-12 months
- ❑ More than 6

12. If cooking fuel is collected, what is the distance to the collection point?

13. If cooking fuel is collected, how long did it take for you to collect the fuel before starting using the (new) stove?

14. If cooking fuel is collected, how long does it take for you to collect the fuel now using the (new) stove?

15. [For institutional stoves/schools feeding, hospitals, feeding centres, etc.] If cooking fuel is provided, how much fuel did families/communities have to contribute per month before the new stove was introduced?

16. [For institutional stoves/ hospitals, feeding centres, etc.] If cooking fuel is provided, how much fuel do families/communities have to contribute now with the (new) stove? How often?

17. [For institutional stoves/ hospitals, feeding centres, etc.] If cooking fuel is purchased, how much fuel did the school buy per month before the new stove was introduced? *[Both price and quantity]*

18. [For institutional stoves/ hospitals, feeding centres, etc.] If cooking fuel is purchased, how much fuel does the institution buy per month now? *[Both price and quantity]*

19. If time saving was mentioned as an advantage, how much time per day did you spend cooking with the old stove?

20. If time saving was mentioned as an advantage, how much time do you spend cooking with the new stove?

21. Is there anything else that helps you save time while cooking?
[For example, soaking pulses, cutting food in small pieces, etc.]

22. What do you do with the time saved from reduced frequency of collection trips (if any)?

23. If the same time, why? *[For example, they sell part of the wood collected]*

24. What else do you use fuel for, if anything?

- ❑ Heating _____
- ❑ Lighting _____
- ❑ Other, please specify _____

25. If cooking fuel is purchased, what do you do with the money saved by reduced consumption?

26. If you have not saved money, why not? *[For example, the price of wood increased]*

27. How much less fuel do you use with your (new) stove? *[If wood is measured in bundle or branches, find ways to calculate roughly the overall reduction]*

- ❑ About 30 percent
- ❑ About 50 percent
- ❑ More than 50 percent

28. Has any part of the stove degraded? [YES/NO]

29. How has the stove degraded?

- ❑ Parts broke
- ❑ The pot rests wore down (for clay and mud stoves)
- ❑ Parts became loose
- ❑ Parts make noises
- ❑ Other, please specify _____

30. Did you receive training on how to maintain and repair the stove? [YES/NO]

31. Please describe any problem you have experienced when repairing your stove.

32. Did you make any change to the stove to make it more suitable to your needs/habits/preferences? *[Please specify]*

PROTECTION

33. Are you experiencing problems with the fuel you use for cooking? [YES/NO] *If yes, check all those that apply listed in priority order [for example, if safety is the primary concern put 1 next to it]*

- ❑ Do not know how to use it
- ❑ High price
- ❑ Poor quality
- ❑ Safety
- ❑ Spillage
- ❑ Fuel shortages, please specify _____
- ❑ Long distance to collect it
- ❑ Competition between groups for access to fuel
- ❑ Other, please specify _____

34. If safety is the primary protection concern, what is/are the cause/s?

- ❑ Ongoing conflict in the vicinity of the settlement/fuel collection area
- ❑ Landmines or other unexploded ordnance
- ❑ Dangerous animals, terrain, etc.
- ❑ Sexual assaults
- ❑ Threats from army/police personnel/border guards, etc.
- ❑ Threats from militia
- ❑ Threats from bandits/opportunists
- ❑ Threats from host population/opposing group
- ❑ Other, please specify _____

35. Has there been any change the stove intervention began? [YES/NO]
If yes, please specify [for example, less collection trip, thus less exposure to risk]

If no, please specify [for example, they sell wood, thus they go as often as before]

36. How much smoke does the new stove/fuel produce compared to the old one? *[Check one response only]*

- ❏ More smoke
- ❏ Less smoke
- ❏ Same amount of smoke

37. Has your (new) stove ever tipped or fallen over? [YES/NO]

38. Have you, your children, or the house been burned by the new stove? [YES/NO]

39. Please describe any other safety concern regarding the (new) stove, if any.

ENVIRONMENT AND LIVELIHOODS

40. Which natural resources do people have access to in the immediate vicinity? *[Check all that apply]*

- ❑ Firewood
- ❑ Dung
- ❑ Straw/agricultural residues
- ❑ Grasses/other biomass
- ❑ Other, please specify _____

41. Was any measure taken to mitigate environmental degradation associated with fuel collection? *[Check all that apply]*

- ❑ Reforestation
- ❑ Woodlot planting/management
- ❑ Training on sustainable harvesting practices
- ❑ Other, please specify _____

42. What has been the impact of these measures, if any?

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

44. Are any of these activities especially fuel-intensive? *[Check all that apply]*

- ❑ Sale of firewood
- ❑ Wood/timber-based construction activities
- ❑ Brick-making (construction)
- ❑ Charcoal-making
- ❑ Brewing
- ❑ Other, please specify _____

45. Has there been any change in how you make a living since the stove/programme intervention began? *[For example, less reliance on natural resources for living]*

46. What are the main coping mechanisms people resort to address the issue of fuel scarcity? *[Check all that apply]*

- ❑ Selling or bartering food for fuel
- ❑ Undercooking to save on fuel
- ❑ Skipping meals
- ❑ Eating less or lower-quality food
- ❑ Other, please specify _____

47. Is there any difference with the situation prior to the stove/programme intervention?

8

Advocacy and communication

Part III
Steps for programming

8

key concepts

8.1 Introduction to programme advocacy and communication

When used in relation to humanitarian programmes, the term 'advocacy' refers to a set of organized actions and efforts aimed at changing a situation. In the context of SAFE, documenting field-level practices and interventions helps increase visibility and awareness of the wide range of SAFE activities undertaken by WFP and partners. Brochures, videos and human interest stories all play a part. Readers and viewers are more interested in one beneficiary's story told in two minutes, in a web story or video, than in long technical reports full of jargon.

At the community level, advocacy has been critical to teaching people about the benefits of the proposed new cooking technologies and fuels. It has also been central in efforts to promote behavioural change around, for instance, food and fuel preparation, stove maintenance, managing natural resources, and preventing GBV.

As well as advocacy at the country/local level, several initiatives are underway to promote and encourage cross-sectoral coordination, information-sharing and advocacy at the global level.

The **International Network on Household Energy in Humanitarian Settings** – known as the **'Fuel Network'** (www.fuelnetwork.org) – was established by IASC's Task Force on SAFE in 2007. It was set up to be the principal cross-cutting mechanism for humanitarian actors to share ideas and information on safe and appropriate cooking fuels in humanitarian settings. Fuel Network members include UN agencies, nongovernmental organizations, technical experts, the private sector, and donors, etc., and the Network has a high-level, inter-agency Advisory Committee. One of the purposes of the Network is to link experts involved in developing alternative fuels and technologies with those who want to implement safer, better household energy projects. It also links agencies whose programmes address different SAFE objectives, encouraging them to work together to address the many issues associated with access to cooking fuel. Through this coordinated effort, the Fuel Network and its partners can more easily identify and implement innovative initiatives and technologies in the field.

The **Global Alliance for Clean Cookstoves** (www.cleancookstoves.org) is a public-private initiative, launched by the UN Foundation in 2010. Its goal is to save lives, improve livelihoods, empower women, and combat climate change by creating a thriving global market for clean and efficient household cooking solutions.

WFP and the Women's Refugee Commission have co-chaired the Global Alliance's Humanitarian Working Group, which consists of more than 20 UN and NGO partners and donors. The Working Group identifies and prioritizes technical and programming options for advancing access to, and the use of, fuel-efficient and clean cooking stoves and fuels in humanitarian settings. It also advises the Alliance on strategies for addressing, in humanitarian settings, issues related to cooking fuel. In common with SAFE, its core concerns are: protection risks; gender-based violence and environmental degradation associated with firewood collection; and the health and safety of stove users. The Working Group is also endeavouring to make safe, fuel-efficient, clean and sustainable cooking solutions available from the earliest stages of humanitarian response.

Below are some examples of SAFE communication and information materials produced to support previous programmes. They ensured that SAFE interventions were known about and understood on the ground. They also helped advocate and fundraise for the projects.

The talking points and frequently asked questions (FAQs) provided in below summarise SAFE and WFP's involvement in the initiative. They can be used as tools to aid preparation for interviews with journalists, donors, or speaking engagements.

8.2 Tools

8.2.1 SAFE briefing PowerPoint presentation

The following PowerPoint presentation is intended for use at Regional and Country Office levels to introduce the SAFE programme to WFP staff, donors and cooperating partners, among others. It is important to note that only the general aspects are included here. Details on the status of the implementation of SAFE in relevant country contexts can be added if needed.

slide 1

WHAT IS SAFE?

The *Safe Access to Firewood and alternative Energy (SAFE)* initiative aims to:

→ **Address the serious challenges linked with access to cooking fuel in humanitarian settings**

To do so, SAFE implements **a multi-faceted approach** that includes:

→ **protection, gender, environmental, health, nutrition, education and livelihoods objectives**

SAFE HAS REACHED
1.6 MILLION BENEFICIARIES

slide 2

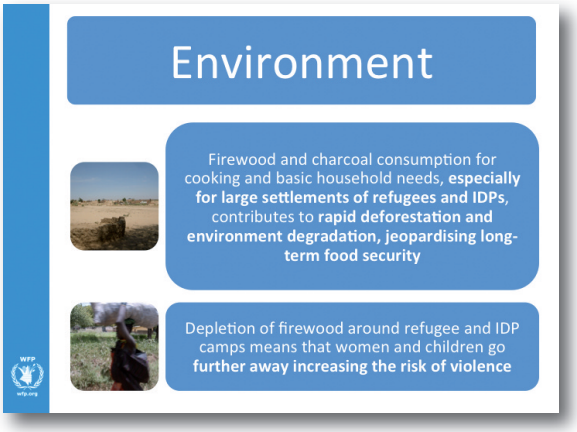
BACKGROUND

- IASC Task Force on SAFE co-chaired by UNHCR, Women's Refugee Commission, World Food Programme from 2007-2009
  - → Roadmap for effective and coordinated humanitarian response to challenges associated with the collection, supply and/or use of cooking fuel
- COP 15 Copenhagen December 2009
  - → WFP's Executive Director's commitment to make safe access to firewood and alternative energy a reality for 6 million displaced persons
- UNF-led Global Alliance for Clean Cookstoves
  - → WFP co-chair with Women's Refugee Commission of Humanitarian Working Group since 2010

slide 3

slide 4

slide 5



slide 6

Health and Nutrition

The adoption of negative coping mechanisms to access coking fuel undermines nutrition: **spending a full day's wage on firewood, selling off food ration, undercooking or skipping meals**

Indoor air pollution from burning solid fuel is one of the top ten global health risks according to WHO **causing an estimated 2 million deaths**

slide 7

Livelihoods

Firewood collection and charcoal burning and selling are **risky and unsustainable livelihood options** often conducted by women in displacement settings

slide 8

Education

In order to cook food at school, communities have to provide wood or pay for cooking fuel. While **gathering wood exposes children to risks of violence, the cost of cooking fuel can be an obstacle to children attending school and accessing school meals**

slide 9

SAFE AND WFP'S MANDATE (1/2)

SAFE and WFP's food security objectives:

- SAFE aims **to save lives and protect livelihoods in emergencies** through the supply of stoves and cooking fuels reducing the risk confronted by women and children in cooking WFP food
- SAFE contributes to **mitigating environmental degradation** contributing to **disaster risk reduction and long-term food security**
- SAFE activities contribute to **restoring and rebuilding lives and livelihoods in post-conflict, post-disaster and transition situations**

slide 10

SAFE AND WFP'S MANDATE (2/2)

SAFE contributes to the **safety and dignity of populations**, at the very least by striving to minimise the negative impacts of assistance on populations that are already at risk

SAFE contributes to **better outcomes of food assistance programme**: multi-dimensional nature of the issue of cooking fuel, if not properly addressed, can undermine food assistance outcomes

slide 11

WFP'S SAFE PROGRAMME


ASSESSMENT


FUEL-EFFICIENT STOVES AND ALTERNATIVE COOKING FUEL


ENVIRONMENTAL ACTIVITIES


ALTERNATIVE LIVELIHOODS


RESEARCH AND PILOT


FUEL FOR EDUCATION

slide 12

ASSESSMENT

Assessment of fuel and cooking needs in emergency and displacement settings

slide 13

FES AND FUEL

Provision or production of fuel-efficient stoves and alternative sources of cooking fuel

slide 14

ENVIRONMENTAL ACTIVITIES

Investment in sustainable natural resources for fuel, such as tree planting and other environmental activities

slide 15

ALTERNATIVE LIVELIHOODS

Introduction of alternative livelihoods for people engaged in collection and selling of firewood and charcoal

slide 16

RESEARCH AND PILOT

Research on and introduction of context-specific technologies

slide 17

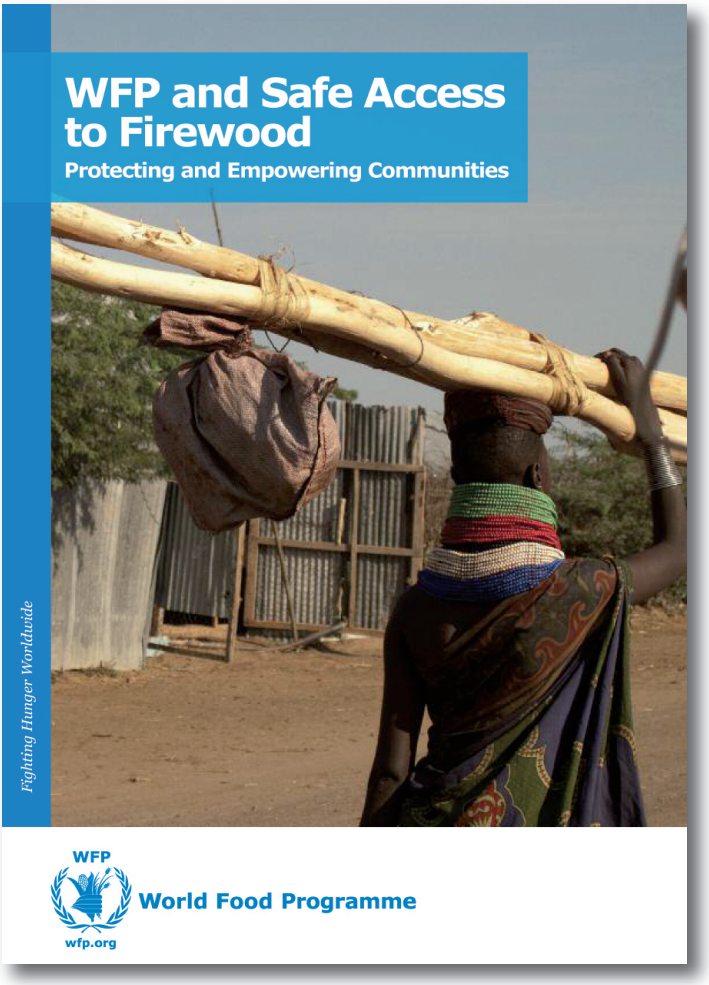
FUEL FOR EDUCATION

Provision of institutional fuel-efficient stoves in WFP-assisted schools

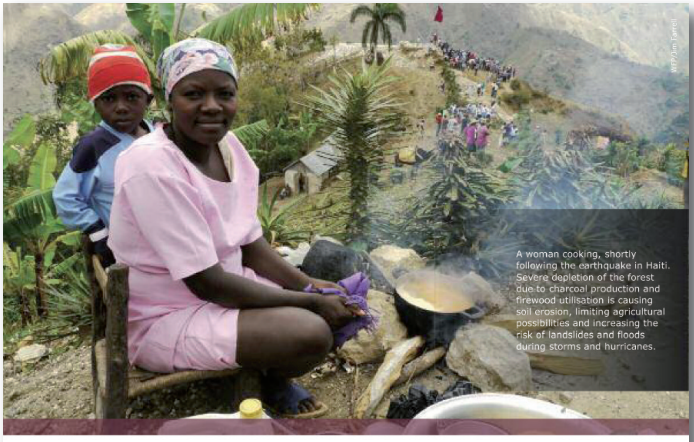
slide 18

8.2.2 SAFE brochure[79]

The following PowerPoint presentation is intended for use at Regional and Country Office levels to introduce the SAFE programme to WFP staff, donors and cooperating partners, among others. It is important to note that only the general aspects are included here. Details on the status of the implementation of SAFE in relevant country contexts can be added if needed.



79. The SAFE brochure here presented is only meant as an example. For the most updated version available, contact the Humanitarian Policy and Transitions Service, Policy Strategy and Planning Division at WFP HQ Rome.



A woman cooking, shortly following the earthquake in Haiti. Severe depletion of the forest due to charcoal production and firewood utilisation is causing soil erosion, limiting agricultural possibilities and increasing the risk of landslides and floods during storms and hurricanes.

The Risks of Firewood Collection in Humanitarian Settings

The global environmental and protection concerns associated with cooking requirements in emergencies and in protracted crises are numerous:

- Women are often forced to travel long distances in search of firewood and grass in order to cook food for their families. They regularly confront the risk of attack and rape as they are forced to venture into unsafe territory. From the camps of displaced people in Sudan, to the Somali refugee camps in Kenya, women organize themselves to collect firewood in groups or at night in the hope of avoiding attack. In pastoralist Uganda, where attacks on women are part of the strategy to humiliate opposing tribes, women try to avoid repeating collection patterns to reduce their vulnerability.
- In places like northern Sri Lanka, access to firewood is hampered by the threat of landmines. Women and children are most at risk, as the main collectors of firewood for domestic cooking.
- The natural resources in many settings where refugees or displaced people live are often severely depleted, as even live trees are cut down for firewood, either to cook or to sell, as it remains one of the few ways to earn an income in these constrained circumstances. This environmental degradation can exacerbate conflict over increasingly scarce natural resources. Deforestation also leads to an increase in greenhouse gas emissions, and the acceleration of climate change impacts.

'Safe, fuel-efficient stoves enable women to be the frontline champions in the battle against climate change and hunger and empower communities with immediate, practical, adaptation solutions.'

WFP Executive Director Josette Sheeran

- In parts of Darfur and the Democratic Republic of Congo, children and their parents struggle to bring sticks of wood to school daily to meet the costs of cooking school meals.
- After the earthquake, many Haitians lost their stoves and had no access to cooking fuel – and so burnt furniture and whatever could be found. Cooking and affordable fuel remains a challenge in crowded camps, particularly in the rainy season.

SAFE brochure

Fuel-Efficient Solutions

- Fuel-efficient stoves and alternative fuels – combined with support for livelihood opportunities – protect women from exposure to risks associated with firewood collection.
- Fuel-efficient stoves protect the environment by reducing the consumption of firewood. If used correctly and consistently, fuel-efficient stoves can lead to a 50 percent reduction of firewood needed for cooking.
- Fuel efficient stoves lower the health risks that women and families experience with the traditional three-stone open fire, by reducing indoor air pollution in the form of unhealthy smoke and particle emissions.
- Non-wood forms of fuel (for example LPG, ethanol, and briquettes from organic matter) and regeneration of forests through tree planting contribute to recovery and resettlement after a prolonged crisis or protracted conflict.

Positive results

- Reducing violence against women
- Creating alternative livelihoods for women
- Supporting families sending children to school
- Decreasing indoor air pollution, or unhealthy smoke and particle emissions
- Reducing environmental degradation which is both a cause and effect of climate change
- Identifying potential benefits from carbon credits
- Introducing innovative, more sustainable fuel technologies and reducing the dependency on unclean energy sources

WFP's Strategy for SAFE

Partnering with FAO, UNHCR, the Women's Refugee Commission and others, WFP is taking forward the recommendations of the UN interagency task force on Safe Access to Firewood and alternative Energy (SAFE). A four-pronged strategy will allow WFP to:

- Reduce the vulnerability and frequency of exposure of women to risk through the major scaling up of dissemination of fuel-efficient stoves and alternative fuels.
- Explore energy technologies that can be effectively applied to protection, livelihood and environmental needs.
- Promote the creation of livelihoods to reduce the reliance of women on the collection of firewood for income.
- Provide schools with fuel-efficient stoves to help ensure that the cost of cooking fuel is not an obstacle to school attendance.

(Left and above) Woman cooking with WFP-distributed *anagi* stove. The WFP-distributed *anagi* stove helps reduce the need to venture into heavily mined forests and bushes in search of firewood.

SAFE brochure

Programmes

As a member of the UN Foundation-led Global Alliance for Clean Cookstoves, WFP is addressing the cooking needs of women and schools in some of the most difficult places, such as Haiti and Darfur. WFP brings a vast experience working in remote, hard-to-reach places and a strong field presence to the Alliance.

SAFE programming is underway in North Darfur, Sudan, and in Karamoja, Uganda – with plans to expand to other parts of the country. Activities have been launched in Haiti and Sri Lanka, and will start in the Democratic Republic of Congo, Ethiopia and Kenya by the end of 2011. The SAFE activities often build on traditional WFP field operations such as food for work, food for training and school meals, with a view to strengthening food security. In Kabkabiya, a remote area in North Darfur where the erosion of the natural resources is particularly bleak and protection risks are high, WFP is supporting the production of briquettes made out of organic waste for cooking. Garbage collection and briquette-making involves hundreds of women. WFP beneficiaries are working closely with staff to improve the design of the briquette-making machines, and to select the most effective accompanying stove. The production of mud stoves is being supported in combination with food-for-work activities, such as gardening and tree planting.

With training in the construction of stoves in Karamoja, Uganda, women report a reduced need to collect firewood and that faster cooking time has allowed them to pursue other activities. Local youth groups trained in the construction of the stoves are now producing and selling stoves in local markets. In combination with the dissemination of stoves, WFP is implementing community projects in the cultivation of crops (staples and vegetables), tree-planting (for wood and fruits) and rainwater harvesting.

In 2010, WFP will feed around 100 million people. This includes some 12 million refugees, internally displaced persons and returnees in 36 countries. Over the next two years, WFP will work with its partners to reach half of this population through the SAFE initiative, by targeting WFP beneficiary households and WFP-assisted schools.

(Left) Woman working in a stove-production centre in Dadaab refugee camp, Kenya.

(Above) Women collecting firewood to sell in North Darfur.

Printed: September 2010 All photographs by WFP/Matteo G. Bastianelli except where indicated Design by CP Publications Unit

WFP
wfp.org

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SAFE brochure

8.2.3 Frequently asked questions on SAFE

The following PowerPoint presentation is intended for use at Regional and Country Office levels to introduce the SAFE programme to WFP staff, donors and cooperating partners, among others. It is important to note that only the general aspects are included here. Details on the status of the implementation of SAFE in relevant country contexts can be added if needed.

SAFE talking points and frequently asked questions

KEY MESSAGES

- The SAFE initiative helps to reduce the risk of violence faced by women gathering firewood and protects the environment by reducing the number of trees cut down for fuel.
- WFP aims to reach 6 million people receiving food assistance through the SAFE initiative, providing fuel-efficient stoves to women in places with significant displaced population.
- By improving stove technology and providing alternative, more sustainable and safer sources of fuel, the SAFE initiative helps to ensure that the food WFP provides can be cooked efficiently and safely, optimizing the impact of our assistance.
- WFP's deep-field presence and long reach into remote locations means it is ideally positioned to support the SAFE initiative.

TALKING POINTS

[These are designed to help you present SAFE in encounters with the media, donors, NGOs etc. In order to be always up-to-date and to communicate more effectively, always refer to HQ for the latest facts and figures available on the SAFE initiative]

WFP engagement in the SAFE initiative

- As a humanitarian agency with a deep field presence, WFP wants to ensure that the food assistance provided to beneficiaries enhances their security and their livelihoods. WFP wants to maximize the nutrition they receive from WFP

food, and protect their personal health and safety as well as the environment around them.

- WFP has joined the UN Foundation-led Global Alliance for Clean Cookstoves, which is committed to enabling 100 million households to adopt clean and efficient cooking stoves and fuels throughout the world by 2020. As co-chair of the Humanitarian Working Group together with the Women's Refugee Commission, WFP brings to the Alliance vast experience working in remote hard-to-reach place and a particularly strong field presence.
- Partners for the Global Alliance for Clean Cookstoves include the German Federal Ministry for Economic Cooperation and Development, Morgan Stanley, Shell Foundation, UN-Energy, UNEP, UN Foundation, UNHCR, USAID, US Departments of Energy, Health and State Department, US Environmental Protection Agency, WHO, and WFP.
- Programme partners for the SAFE initiative include FAO, GIZ, UNEP, UNHCR and Women's Refugee Commission among others.
- WFP is working with its partners to reach half of the displaced population (about 6 million) through the SAFE initiative, by targeting households and schools receiving WFP assistance.
- Fully-fledged SAFE programmes are underway in North Darfur (Sudan) and Uganda, while countries such as Chad, the Democratic Republic of the Congo, Ethiopia, Haiti, Kenya, South Sudan and Sri Lanka have started the implementation of specific activities or are at a kick-off stage. *[Always be updated with the latest SAFE figures].*

Rationale

- Experience has shown that women living in conflict zones and displacement camps are not always able to cook food properly, because of a lack of efficient cooking facilities. WFP surveys have shown that pulses, for example, are often eaten undercooked, because they require long cooking times and women struggle to find enough firewood to keep traditional fires burning.
- WFP's beneficiaries often resort to a range of negative coping mechanisms in order to cook their rations. Some women spend a full day's wages on firewood alone. Others sell off food rations to buy fuel. If wood is not available, or unaffordable, some women undercook food or families skip meals.
- Refugees and women living in arid areas are forced to walk further and further into the bush to collect firewood. They chop down trees and uproot grasses, harming the already fragile eco-system. They venture into unsafe areas and are left vulnerable to rape and other attacks.
- Children are often involved in firewood collection together with their mothers, putting them at risk of attack when venturing into the bush. Some

children are asked to bring firewood to school to cook their lunches, and they may be prevented from attending classes if they fail to do so. In Karamoja, Uganda, for example, but also in Chad, DRC, Kenya, North Darfur and South Sudan, each child is sometimes required to bring one stick of wood per day to school.

- Wood fuel consumption (both firewood and charcoal) for cooking and basic household needs has become a major contributor to rapid deforestation and environmental degradation. Stripping land jeopardizes agriculture and contributes to climate change.
- A fuel-efficient stove reduces the harmful health effects of smoke. The World Health Organisation (WHO) has described indoor air pollution from burning solid fuel as one of the top ten global health risks. Every year, indoor air pollution is responsible for 1.6 million deaths, one death every 20 seconds.

Field-specific facts

- In **North Darfur** – where the erosion of the natural resources is particularly bleak and protection risk the highest – WFP set up fire-fuel brick-making. Rubbish collection, sorting and briquette-making involved hundreds of households. Mud stove production is supported through Food for Work activities, such as gardening and tree-planting. This approach – providing the means to women to cook their food while also generating income alternatives to firewood collecting – lowers the risk that women confront in their daily lives. Training centres have been opened by WFP for the production of fire fuel briquettes and the construction of fuel-efficient stoves.
- In **Karamoja**, Uganda, key counties are targeted for stove production (with training by GIZ). Monitoring reports indicate a reduced frequency of consumption and need for collection of firewood. Women reported that the faster cooking time allowed them to pursue other activities. The reduced collection time also decreases the risk of exposure to violence. In addition, under the KPAP programme beneficiaries are targeted with a menu of livelihood activities, according to the different livelihood zone that characterize the region, in order to provide them with alternative non-wood intensive income-generating opportunities. This approach brings about both reduction of protection risks, livelihood diversification and environment rehabilitation at the same time.
- In the Northern region of **Sri Lanka**, where the presence of unexploded ordnances (UXOs) and landmines is widespread, displaced population and returnees risk their life almost on a daily basis to fetch the firewood they need for cooking. Sri Lanka has a long-standing experience with the production of the local fuel-efficient stove *anagi*, which is a well-known, highly used, two-pot stove produced by local potters and marketed within the country. As the

potters' production capacity in the North was limited, WFP started building the capacity of new potters in order to increase the availability of anagi stoves to IDPs and returnees, ultimately decreasing the risks of explosions in resettlement areas. *[More up-to-date achievements can be added as they become available].*

Sample FAQs

How is the SAFE initiative relevant to WFP's work and mandate?
As the world's largest humanitarian agency fighting hunger worldwide, WFP has a duty to make sure its assistance is as nutritious as possible and that it does not cause unintended harm. This includes making sure food can be cooked safely, properly and efficiently, which is not always the case in conflict zones and camps for displaced people, for example. Through the SAFE initiative, WFP will support beneficiaries with fuel-efficient stoves and livelihood opportunities to ensure that they have the means to cook food properly without jeopardizing the environment or themselves. It will also reduce the risk of violence that women run while gathering firewood for cooking.

Why is WFP supplying stoves and supporting the development of fuel-efficient cooking stoves and not food in this initiative?
Providing food needs to be linked with providing the means to properly cook food in order to provide optimal nutrition to beneficiaries as well as ensure that they have safe access to cooking fuel. We are committed to the protection of recipients of our assistance through WFP's strategic plan. Taking forward the recommendations of a UN interagency task force, WFP is working with its partners – FAO, UNHCR and others – on activities recommended by the SAFE approach that can be integrated into traditional WFP field operations (Food for Work, Food for Training, School Meals).

Coordination with UNHCR on fuel-efficient interventions in refugees affected areas
While there is no fuel-mandated agency, there is no doubt that UNHCR has been long working on fuel-efficiency in many refugee settings. Yet, the need for a multi-sectoral approach to cooking fuel as well as scarcity of human and financial resources are among the challenges faced by UNHCR (and others) when trying to address the cooking fuel needs of the assisted population. Past experience showed that WFP is well placed to complement UNHCR activities in refugee areas. Effective collaboration has been established in North Darfur, Ethiopia, Kenya, while discussion is underway in other contexts.

Why WFP? What unique approach does WFP bring to the SAFE stove alliance?
WFP brings its field outreach – to some 12 million displaced people and refugees around the globe – to the Alliance. In most of these displaced settings – e.g. Darfur, DRC and Kenya – women are compelled to find the fuel to cook food we provide, putting them at risk of attack and abuse. We can have a tangible effect on their safety, on their protection, by i) introducing stoves and alternative fuels that reduce their household firewood needs; and ii) by offering alternative livelihoods to replace their reliance on wood and charcoal sales for family income.

Why has WFP joined the Global Alliance for Clean Cookstoves?
The UN Foundation-led Global Alliance for Clean Cookstoves is committed to enabling 100 million households to adopt clean and efficient cookstoves and fuels throughout the world by 2020. WFP brings a vast experience working in remote, hard-to-reach places and a strong field presence to the Alliance and is currently co-chairing the Humanitarian Working Group together with the Women's Refugee Commission.

Where does WFP have SAFE programmes?
Building on years of WFP's experience in the provision of fuel-efficient stoves in schools, major programmes have been launched in Sudan and Uganda, while others are underway in the Democratic Republic of the Congo, Ethiopia, Haiti, Kenya and Sri Lanka.

What type of stoves are you providing?
We are providing a range of fuel-efficient stoves for women for household cooking needs in camps and other displacement settings and for WFP-assisted schools for school meals. The type of stove depends on locally available materials, ranging from improved mud stoves and small metal stoves at the household level, to industrial stoves for schools.

What kind of fuel are you using?
WFP is providing stoves that use less fuel-wood (wood or charcoal) and alternative energy such as for example briquettes (made of organic waste).

What has WFP done in Sudan and Uganda?
In remote areas of North Darfur where the erosion of the natural resources is particularly bleak and protection risk the highest – WFP has provided households with fuel-efficient stoves and is piloting fire fuel brick-making. Rubbish collection, sorting and briquette-making has involved hundreds of households. Women are now enthusiastically working closely with WFP staff to improve the design of the briquette-making machines. The production of mud

stoves has been scaled-up in combination with Food for Work activities such as gardening and tree planting.

In Karamoja, Uganda, key counties have been targeted for stove production (with training by GIZ, formerly known as GTZ). Monitoring reports indicate a reduced frequency of consumption and need for collection of firewood. Women have reported that the faster cooking time has allowed them to pursue other activities. As one example of the positive impact, members of a local youth group that had been trained in the construction of the stoves are now producing and selling stoves at local market.

What do we know of the impact of WFP-provided stoves?
WFP-assisted schools in Karamoja reported that since they started using the institutional stove provided by WFP, children are no longer bringing firewood to school on a daily basis but rather every two to three days. This 50 percent reduction in firewood consumption helps lessen the risk that children and their mothers face in collection, and allow the schools to save money for other needs. In Uganda, all women using the mud/clay stove agreed that they needed less firewood than with the traditional three-stone fire, saving them and their family's time and money.

What is the carbon footprint of these stoves, both in terms of their use and manufacturing?
The carbon footprint of mud stoves is lower than traditional open-fire stoves – both in terms of their use and in terms of the manufacturing process. These stoves emit less black carbon and/or smoke, and hence are a more environmentally-friendly option.

The typical or traditional open wood fire – often composed of three stones with wood in the middle – uses only 15 percent of the provided fuel to cook – leaving 85 percent to turn into harmful smoke and heat radiation, thus contributing to global warming. A simple mud stove, however, increases the fuel use efficiency rate by 20 percent (35 percent of the fuel is used to cook). There is less fuel wastage and less black carbon and/or smoke emitted from the mud stove.

Will the stoves that you are using be manufactured locally and as such can you say there will be an additional positive impact of purchasing locally?
Wherever possible, the stoves for WFP-assisted schools are being manufactured locally by welders or blacksmiths – creating local employment opportunities. By buying locally and encouraging production or assembly of stoves at the local level, WFP hopes to help provide income-generating opportunities.

Furthermore, at the household level, Food for Training programmes – such as the one being implemented to employ women in the production of mud stoves in North Darfur – help to empower women and offer a means of financial independence and security.
In some settings, such as in Haiti following the earthquake, where the immediate needs heavily outweigh the capacity for local production, WFP may import stoves and materials.

What are the positive health implications of using these stoves – do they reduce the amount of smoke and how can you quantify that?
Fuel-efficient stoves lower health risks that women and families experience with the traditional three-stone open fire, by reducing unhealthy smoke and particle emissions. This is particularly harmful when the stoves are indoors. However, reduction in the emissions can vary depending on the type of stove being used, user's behaviour, technology up-take, food preparation and cooking practices, and so on.

What are the biggest challenges in scaling-up SAFE programming?
There are numerous challenges inherent in scaling-up existing SAFE programming. WFP operations must ensure sufficient capacity on the ground to implement programming and training, in the context of ongoing conflicts and natural disasters. WFP often contends with a dearth of available local materials in these remote areas. Working in conflict zones or sensitive regions means that, in addition, WFP must manage the safety of its own staff.

What do you need most to scale up – money, expertise, science, political will?
We mostly need funds, but effective investment in SAFE requires expertise – not just in stoves and fuel technologies but also in the capacity to address such a complex issue in a comprehensive and integrated way (taking into account livelihoods, protection and the environment). It also requires partnerships with the UN, with technological/innovative outfits and companies, as well as with the private sector. This underscores the importance of the Alliance.

What is the prospect for sustainability and technology up-take in the WFP-supported SAFE programmes? Are you pushing stove solutions or models, or answering and building demand from communities?
We have to be realistic about the kinds of opportunities for stoves and fuels that exist in very difficult, low capacity displacement settings. What can be achieved in-scale in India or China, with strong national programmes and commitments (and very much supported by other partners in the Alliance), will be different than what WFP and communities can achieve in North Darfur or northern Sri Lanka.

- In Karamoja (Uganda) and North Darfur, markets (and purchasing power) are weak, and local manufacturing capacity for the production of higher technology stoves is low. As a result we are concentrating on locally produced mud stoves – they are affordable, they use locally available material, and they can be built and maintained by the beneficiaries themselves.
- In Sri Lanka, the Anagi stove was widely used and available on the market in southern Sri Lanka when the displacement crisis in early 2009 occurred. WFP purchased and distributed the stove to displaced populations and returnees. As populations return home to the north of Sri Lanka, they are taking their stoves with them.
- In WFP school meals programme in Kenya, where WFP is working in a more stable setting and the capacity for local production is higher, WFP is facilitating the provision of locally produced, highly efficient stoves to WFP-assisted schools.
- Haiti posed particular challenges. With local manufacturing capacity for stoves and fuel extremely low, WFP decided to concentrate on stoves for school feeding, reaching a greater number of people and having a larger effect on charcoal and firewood needs than individual family stoves.

What has worked and what has not worked?
WFP is working with partners with many years of technical expertise, such as Aprovecho and GIZ to ensure that WFP does not repeat past mistakes. Main challenges have included engagement and coordination with relevant actors on the ground to ensure a multi-sectoral, integrated fuel response; human and financial resources to ensure targeting and implementation of planned activities; and security and access constraints.

How is WFP going to get to its target of 6 million?
WFP is not talking about providing 6 million stoves. WFP has committed to reaching 6 million displaced beneficiaries with SAFE programmes – a package or combination of stoves, cooking fuels, alternative livelihoods and other protection efforts – that improve and make safe families' access to household fuel for cooking. A single family stove, for example, might well benefit 6 or 8 family members.

8.2.4 Sample of SAFE communication and advocacy material[80]

Web stories

Uganda: Better Stoves Curb Risks for Rural Women

Published on 20 September 2010

Women in the Karamoja region of Uganda run the daily risk of rape and violence during their daily search for wood to cook and mend their fences. Efficient new stoves provided by WFP are helping them curb those risks by reducing the amount of wood they need to prepare meals.

MOROTO – Two surveys of WFP beneficiaries paint a shocking picture of the hardship and sexual violence faced by Ugandan women collecting firewood. WFP has launched a project, which could improve their lives by, among other things, introducing more efficient cooking stoves as part of the Safe Access to Firewood and Alternative Energy (SAFE) initiative.

Women told focus groups how they spend as long as six hours a day, six days a week, in the bush collecting wood, running the risk of rape and other attacks, often from warriors from rival tribes.

"When we go to collect firewood in the mountains you can meet a warrior if it is your bad day. They rape and rob you, and if you try call for help or try to resist they can beat and rape you more. This may even make them kill you." – *Female firewood collector, Moroto, Uganda.*

"They can pull you into the thorns, hurt all your body, tear all your clothes and leave you with wounds," said one woman from the village of Losikait, in the Moroto district of Karamoja. "I know of women in this community who have been killed by warriors. In fact all of us – young girls and adult women who collect firewood – are all at high risk."

(continued...)

80. A video on SAFE can be found in the flash key attached to the Handbook.

(...continued from page 168)

Curbing the Risks

The wood is used for cooking and to fence off homesteads in mainly pastoralist communities who raise livestock for a living. In the rainy season, the risks are even higher, because the long grass grows high, providing cover for potential attackers.

The two surveys, carried out by WFP's partners, Samaritan's Purse and World Vision Uganda, in the Kotido and Moroto districts, will act as a baseline, to measure the impact of SAFE project activities.

In April this year, WFP in partnership with the German development agency, GTZ, started to provide women in the two districts with fuel-efficient mud stoves. Eighty community-based trainees were shown how to help women build their own stoves. So far, more than 1,500 stoves have been produced.

Multiple Benefits

Benefits have been immediate. The stoves need less fuel, and women say they have been able to cut by almost a half the frequency of their collection trips – significantly reducing the risk of being attacked.

In addition, the SAFE initiative encourages protection of the environment. More efficient use of fuel means that fewer trees are chopped down for firewood and charcoal production. The project also aims to promote the creation of livelihoods to reduce the reliance of women on the collection of firewood for income.

Sri Lanka: Efficient Stove Helps Mother Avoid Land Mines

Published on 3 September 2010

Land mines are a constant threat in many parts of Sri Lanka in the wake of long years of civil strife. Parathachchelvi Navarajan says that a fuel-efficient stove, given to her by WFP, has reduced the amount of fuel she needs to cook and therefore lessened the risk that she will step on a mine when searching for firewood.

MULLAITIVU – Parathachchelvi Navarajan, 33, has just returned to her family home in the northern village of Mullaitivu after fleeing in 2009 amid fighting between government forces and the rebel Tamil Tigers.

After six months of living in refugee camps, the one thing she and her 11-year-old daughter brought back with them was an energy-efficient anagi stove given to her by WFP.

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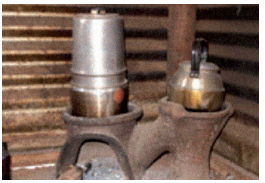
This stove will dramatically cut down on the amount of firewood she needs to cook. And this, in turn, will reduce her chances of encountering one of the mines left behind by 26 years of fighting.



An "Excellent" Stove

The anagi, which in Sinhala means "precious" or "excellent", is a single-piece clay stove designed to meet the cooking needs of a family of six. It's an estimated 30 percent more fuel efficient than cooking over an open fire.

A Hidden Danger

Un-cleared landmines and unexploded bombs are a constant menace in much of Sri Lanka, where everyday activities like gathering firewood can be life threatening.

Mine fields have rendered large swathes of territory, including roads, schools and other essential infrastructure, completely off limits.

But the greatest hazard for people like Parathachchelvi and her daughter are the explosives and booby-traps scattered throughout the forest. Without any alternative fuel source, Sri Lankans in Mullaitivu have no choice but to risk their lives every day in search of firewood.

An Efficient Solution

"Now that I have my anagi stove, I don't have to go into the woods as much," says Parathachchelvi. Because they reduce the amount of wood needed to cook, the stoves are boon for the local environment.

Deforestation is a major problem in northern Sri Lanka, where it has led to increased soil erosion and the rising risk of floods.

To limit the risks of gathering firewood and help reduce deforestation, WFP is providing over 13,000 families with anagi stoves as part of its Safe Access to Firewood and Alternative Energy (SAFE) initiatives. Around 630 schools in the area, primarily those which participate in WFP's school meals programme, will also be issued with the stoves.

Kenya: Fuel-Efficient Stoves Save Cash and Forests

Published on 13 July 2010

Parents in the Kangemi slum in Nairobi used to spend $450 a month on the firewood used to cook their children's school meals. Now they spend less than a quarter of that thanks to a new fuel-efficient stove that's kinder to the environment and safer to use.

NAIROBI – Preparing the noonday meal for over 2,000 hungry students at Kangemi Primary School is no simple affair. But it used to be even harder, when the massive pots of stew and porridge had to be cooked over the open fire of a three-stone oven.

Little less than a bonfire, the "oven" at Kangemi Primary School consumed huge amounts of firewood and filled the kitchen with smoke. "We used to cough all of the time because of the smoke in the kitchen," said the school's principal, Ms Margaret Wangui Wanjau.

Teachers and Kangemi Primary School used to use four three-stone stoves like this one to prepare meals for over 2,000 children. According to the WHO, smoke from indoor fires kills over 1.6 million people in developing countries every year. "But the new jiko (stove in Swahili) has a chimney and all the smoke goes outside. So we don't cough anymore. And our chest pains have gone, too."

Better All Around

Apart from providing a smoke-free learning environment, the new 600-litre steel oven has saved the children's families a considerable amount of money on firewood.

Kangemi Primary School is in a large slum on the outskirts of the city, where families typically spend around 70 percent of their income on food. For these poverty stricken parents, any savings at all can go a long way.

"I can't wait to tell the parents how much we've saved this month," says Ms. Wanjau. "We used to spend $450 on firewood every month. Now that will last us for four months."

(continued...)

(...continued from page 171)

Climate Change

Just as importantly, fuel-efficient stoves like the one at Kangemi Primary School reduce firewood consumption and help curb the cycle of deforestation, which has claimed over 83 percent of Kenyan forestland. Coupled with the effects of climate change, this has led to massive levels soil erosion, floods and drought.

Kenya's waning supplies of firewood have, however, coincided with a rise in demand as the population continues to grow. "I see the increasing demand for firewood as one of the largest underlying challenges for long-term sustainable development in Kenya," said WFP Programme Officer Kristoffer Welsien. "Making firewood stoves more efficient is the most sensible way of addressing that challenge in the short and medium term," he said.

According to Welsien, WFP this year will install over 300 energy-saving stoves in schools across Kenya. He said that with increased donor support, that number could rise to over 3,000 stoves by 2013.

Creative Financing

Fuel-efficient stoves can save so much money, that some communities are willing to take part in the investment. A joint project with the United Nations Development Programme (UNDP) finances half the cost of school stoves while communities pay for the other half through micro-credit lending. The money they repay goes towards buying new stoves or fixing them if they break.

9

Emerging approaches and lessons learned

Part IV
Promising practices

9

key concepts

9.1 Lessons learned[81]

Some general lessons can be drawn from WFP's experience in the implementation of the SAFE programme:

Institutional

- The opportunistic integration of SAFE within the framework of WFP's country strategies and programmes helps strengthen food assistance outcomes. It allows WFP's SAFE initiative to make use of existing resources for implementation and monitoring.
- A learning process on SAFE aspects is fundamental to capitalizing on successes and helping to fill gaps. It also helps mitigate against duplication of efforts.

Programmatic

- To ensure that the SAFE goal is reached and its impacts are sustained over time, minimum standards on the quality of stoves and fuels, livelihood and protection activities should be met.
- A medium-to-long-term perspective and analysis is crucial even at the earliest emergency stage. It mitigates further damage, transfers knowledge and builds capacities effectively, thus ensuring transition and durable solutions.
- In the selection of modes for production and distribution, it is essential to carefully weigh up locally-available materials and skills; existing financial resources; desired efficiency gains; and capacity for monitoring and follow-up, etc.
- When a ToT production mode is chosen, standardized approaches, practices and tools can ensure uniformity in the quality and efficiency of stoves across all beneficiaries.
- Close and continuous engagement of staff across all stages of the programme cycle is critical. It ensures consistency of messages and approaches across locations, quality control over activities, and adequate results; and it provides a well-coordinated and integrated approach.

81. Important lessons from improved cooking stove projects have been posted by GIZ at: https://energypedia.info/index.php/Facts_on_cooking_energy#Lessons_learnt_from_improved_cookstove_projects Accessed 7 February 2012.

Partnership and coordination

- The multidimensional nature of the SAFE programme provides opportunities for enhancing coherence, synergies, and collaboration with a breadth of actors on the ground. These include non-traditional WFP partners working in areas, such as gender-based violence, that have traditionally been outside WFP's mandate.
- Alignment in both planning and implementation with other actors on the ground can improve the effectiveness of the programmes. If objectives are shared and coordination well planned, it can also optimize resources.
- Engagement with new donors and institutions and working with partners – to develop long-term, dedicated support for ensuring safe access to appropriate cooking fuel, particularly in humanitarian and transition settings – contributes to predictable, dedicated funding mechanisms for cooking fuel response.

Box 8: The Gaia Association in Ethiopia

In the early 1990s, eastern Ethiopia hosted 600,000 Somali refugees. This had severe, long-term consequences for the forests in that region. Most refugees were repatriated in the late 1990s. But, over the last few years, violence has escalated again in Somalia, and, once again, thousands of Somalis have come to Ethiopia.

The Ethiopian government is concerned about the environmental consequences of hosting more refugees. The Somali region of eastern Ethiopia is now so arid that there is significant competition between refugees and hosts over access to firewood, and this has led to frequent attacks on firewood collectors. In the past, the Ethiopian government has been reluctant to allow UNHCR to open new refugee camps in the region unless UNHCR finds an alternative to firewood as the refugees' primary cooking fuel.

Ethiopia has a State-owned sugar refinery, Finchaa Sugar. When sugar cane is refined, one of the by-products is molasses; however, there is no domestic market for molasses and so the company was simply dumping it. In 2004, Finchaa Sugar realised that the molasses could be turned into ethanol, and approached the international NGO Project Gaia to collaborate on a clean cooking stoves project. In 2005, Project Gaia formed a local subsidiary NGO, the Gaia Association, to bring this initiative to fruition. UNHCR engaged with the Gaia Association to support the production of ethanol and to introduce the fuel in the refugee camps as an alternative to the scarce firewood and expensive, unsafe kerosene.[82]

(continued...)

82. At the beginning of Gaia's ethanol project in Ethiopia (2004-2005), ethanol was being produced solely for the Gaia Association to distribute in the camps. Over time, however, the Ethiopian government has seen the commercial potential for ethanol. It is now producing more and has begun a fuel-blending programme for cars. Expanding into this market, however, has significantly reduced the amount of ethanol available for distribution to the refugee camps.

(...continued from page 176)

Originally, the Gaia Association imported 'CleanCook' ethanol-burning stoves from a factory in Slovakia. The cost was prohibitive, and so in 2007-08 Gaia and its partners constructed a factory outside of Addis Ababa to produce the stoves locally. By manufacturing locally, the stove's cost was halved: production now costs Gaia roughly US$33 per unit.

The Ethiopian government recognized that this type of programme would also benefit low-income households in Addis. They engaged the Gaia Association to distribute both the CleanCook stove and ethanol to housing projects, and to train households to use ethanol as their main cooking fuel. In these domestic situations, the ethanol is stored in a tank in the buildings' courtyards, and residents have formed women's cooperatives to manage its distribution. The CleanCook stoves are sold to the residents at a subsidized rate.[83]

To the extent possible, stove users should be directly engaged in deciding which stove is most appropriate for their particular needs. Box 9 below describes how in 2010 WFP engaged local women in the process in Kebkebiya, North Darfur.

Some useful lessons can be drawn from WFP's review of the SAFE programmes in North Darfur (Sudan) and Karamoja (Uganda). One of the key messages is that a standardized approach is crucial to the success of the programme. For example, to ensure uniformity in stoves' shape, size and efficiency, moulds were introduced to the various production sites.[84] Another key message is that integrating SAFE within the broader framework of WFP activities created a window of opportunity for SAFE to flourish. Communities and partners were mobilized; the programme was pilot tested, and it was possible to monitor and revise implementation modalities and approaches as needed. WFP staff were engaged at all stages of the project cycle and watched closely as the programme progressed. Their broad field presence and involvement in the initiative enhanced institutional capacity for SAFE, and resulted in greater clarity and consistency of messages and approaches across locations.

83. More information on the commercialization of CleanCook stoves in Addis Ababa is posted online at: http://www.projectgaia.com/page.php?page=ethiopia. Accessed 9 July 2012. Efficiency tests in North Darfur showed that the mould-based stoves are 30 percent more efficient than the three-stone fire, WFP (2011). SAFE Impact Assessment Darfur 2011. Rome: WFP.

84. Efficiency tests in North Darfur showed that the mould-based stoves are 30 percent more efficient than the three-stone fire, WFP (2011). SAFE Impact Assessment Darfur 2011. Rome: WFP.

Box 9: WFP's Darfur stove competition

Halima, a 28-year-old mother from Northern Darfur, won first prize in a contest among local women trained by WFP to make their own clean-burning cook stoves. The competition was organized by WFP as a means of encouraging women to learn about fuel-efficiency within the framework of its SAFE programme in Northern Darfur. Judged by WFP and community members, Halima's stove triumphed over those of 11 of her neighbours. The stove she designed consumes less wood, produces less smoke and cooks faster than all the others.

On average, WFP-promoted stoves consume around two-thirds less wood than the traditional open fire. This enables women to spend less time harvesting firewood. According to Halima, however, the nicest thing about the stove is that it is safe. Unlike the open fire, she can walk away from it while her food is cooking and perform other chores without worrying. The stove is now being promoted by WFP throughout the region.

9.2 Opportunities for carbon financing

In 2007, the United Nations Framework Convention on Climate Change (UNFCC) ratified the Kyoto Protocol. Its aim was to reduce atmospheric greenhouse gas concentrations to a stable level that would prevent man-made climate change. A system called Carbon Offset was introduced, whereby carbon credits could be sold by states and companies that are low greenhouse gas producers to others that are high producers. It has allowed those that cannot quickly, or easily, comply with statutory emissions targets to compensate for their harmful outputs by supporting activities that reduce emissions elsewhere.

More recently, a second, voluntary market was established to enable individuals and firms to offset their carbon footprints by purchasing carbon credits.

There is now a growing interest in harnessing carbon-related funding to support the implementation of energy efficient practices and technologies. In developing countries, carbon financing can be used to support the introduction of improved technologies to people living in poverty. And it allows this to be done on a much larger scale than was previously possible. Revenues from carbon credits can stimulate production and dissemination of stoves by reducing their price, making them more affordable to customers.

However, significant challenges exist. Planning carbon credit projects is time-consuming and costly, and monitoring processes can be very elaborate. Furthermore, the bulk of transaction costs must be covered by preliminary financing from other sources. This is because projects need to be up and running for about two years before the carbon crediting period begins and the first emission certificates are issued.[85]

To be eligible, projects must either reduce emissions or capture carbon from the atmosphere and store it away. The latter is called carbon sequestration. Forestry is a carbon sequestration activity because trees absorb CO_2 and retain it throughout their lives. Projects in this category include afforestation and reforestation, sustainable forest management, and REDD (Reducing Deforestation and Forest Degradation). Projects that help reduce greenhouses emissions are those that improve energy efficiency, or replace solid and traditional biomass fuels with emissions-free energy sources, such as solar.

How much sequestration or emissions reduction can be achieved depends on the scale of the project and its potential for replication. These considerations are fundamental when deciding whether a carbon-financed project would be cost-effective and worth pursuing. Other key aspects that must be considered are:

- **Duration:** a long time frame will be the most cost-effective;
- **Stability:** credits cannot be accrued unless the emissions reduction is permanent;
- **Leakage:** the project must not directly or indirectly cause an increase in greenhouse gases beyond the project's boundaries; and
- **Viability:** carbon revenues are rarely sufficient to fully finance project implementation. Projects must have start-up funding, and, ideally, they should be capable of eventually becoming at least partly self-financing.

If programmes can be designed to meet these conditions then carbon credit finance can be an attractive option for large-scale projects – usually in **non-emergency contexts.**

Potential for sequestration and greenhouse gas mitigation in WFP-promoted activities has been explored by EcoSecurities, which conducted a feasibility study in seven Eastern African countries.[86] All potentially relevant activities

85. GIZ (2011). *Carbon Markets for Improved Cooking Stoves – A GIZ Guide for Project Operators*. Eschborn: GIZ, 7.
86. EcoSecurities is a world-leading originator, developer and trader of carbon credit projects. The feasibility study covered Burundi, Djibouti, Ethiopia, Kenya, Rwanda, Tanzania and Uganda.

were examined, including reforestation, and the promotion of fuel-efficient stoves at household and institutional levels.

Below are few steps to guide the set-up of a carbon credit project:[87]

Step 1. Consider:

- **The scale** of the project and its potential for replication – these factors determine the project's cost-efficiency;
- **The location** – many remote locations cannot be reached often enough to meet stringent monitoring standards;
- **Staff skills** and capacities for adhering to demanding standards requirements;
- **The stability of the project** – emissions reductions should be permanent;
- **The project's sustainability** – the project should contribute to sustainable development and should not have any adverse social, environmental or economic impacts;
- **Stakeholders** – always consult with stakeholders to ensure the success of the project.

Step 2. Check that the project has 'additionality', i.e. whether the project will actually lead to a greater reduction in greenhouse emissions than could be achieved under normal conditions.

Step 3. Find a carbon retailer. Although it is possible to embark in a carbon credit project autonomously, doing so is often complex and risky. Instead, it is advisable to refer to a carbon offset retailer to purchase carbon credits from both the compliance and voluntary markets. Carbon offset retailers usually write what is called a Project Design Document, and submit it to a carbon credits standards body.

Step 4. Choose a carbon credits Standard to adhere to. Standards ensure that purchased credits are valid and not double counted, and that they contribute to sustainable development. Although there are several different certifying bodies, the various standards that they certify all belong to one of the following three categories: Kyoto Protocol Compliant Standards, Voluntary Standards and Premium Standards.[88] Each of these Standards – and the certifying bodies' versions of them – is specific to particular types of project or implementing organization.

87. Freely adapted from Mercy Corps '10 Steps for Carbon Credit Supported Projects'. See also GIZ (2011). *Carbon Markets for Improved Cooking Stoves – A GIZ Guide for Project Operators*. Eschborn: GIZ.

88. For more information about carbon credit standards, visit the webpage: http://www.carbonplanet.com/verification_and_standards, accessed 30 May 2011.

Step 5. Choose an approved methodology for defining the baseline, evaluating the project emissions and emissions reductions, and defining the monitoring procedure. Standards are very demanding, and designing a methodology and submitting it for approval can be time-consuming and costly. Success is not guaranteed.

Step 6. Predict emission reductions with and without the project. It is important to be able to demonstrate that the project will make a real difference, and that the changes it will make cannot be achieved without it. Technical assistance is usually required to take the measurements and make the necessary calculations.

Step 7. Monitor the project regularly, adhering to the Standard's requirements.

Box 10: Lessons from Mercy Corps' experience with carbon credit financing in the Democratic Republic of the Congo[89]

In 2008-10, Mercy Corps undertook an FES project in IDPs camps in Goma (DRC). Its goals were to improve the health, protection and livelihoods of beneficiaries, and to protect the surrounding environment. Applying the Gold Standard (GS), Mercy Corps pursued carbon financing, and purchased credits from the retailer Carbon Clear.

Activities included: training beneficiaries in the construction of FES, their correct use and improved cooking techniques for maximising fuel efficiency; and constructing and distributing FES to beneficiary households.

Challenges: Initially, Mercy Corps used a stove from West Africa. The stove's quality turned out to be poor. The requirements of GS, however, allowed Mercy Corps to improve the quality of its stoves.

Other challenges related to the instability of the operational context. Emergency contexts are highly volatile and necessitate rapid changes, whereas carbon financing aims at permanence and stability. In DRC, Mercy Corps had to restart project implementation when some IDP camps were shut down and many of the stoves that had already been produced and delivered were abandoned or destroyed. Mercy Corps also discovered that they lacked both the skills and the staff to carry out all of the GS-required monitoring activities and comply with technical standards.

Lessons: Carbon credit projects are not well suited to emergency settings where long-term planning is impossible. Moreover, both technical and human capacity should be in place for a carbon financing activity to be considered. Finally, for regular, highly-demanding monitoring to be feasible, urban and/or concentrated areas such as camps should be prioritized over scattered rural areas.

89. For more information on Mercy Corps' project on fuel-efficient stove in DRC, please refer to Mercy Corps (2010). *DRC Fuel Efficient Stove Project: a Review of the Experience of Mercy Corps' First Project Involving Carbon Credits*. Portland: Mercy Corps.

10

Technical fact sheets

Part V
Information material

10

key concepts

Stoves fact sheet

This fact sheet gives an overview of different types of fuel-efficient stoves, and it describes their characteristics. The objective is not to make you a stove expert, but to introduce you to some of the stoves that already exist. Each type has different pros and cons. Once you have narrowed down your choices, we recommend that you engage a stove expert to help you select the right design for your project.

For each kind of stove shown below, you will find a short list of its main characteristics, strengths and weaknesses, and a few application examples. This fact sheet is not a comprehensive list; nor does it recommend one stove type over others. The context is all-important: the examples shown here will introduce you to your options.

Prices shown here are sourced from USAID's toolkit.
Costs of stoves are indicated with the following symbols:

$	US$10
$$	US$10-30
$$$	US$30-100

MUD STOVES

Material: Mud stoves are made of soil or clay mixed with organic material, such as mica, straw, grass or sawdust. Dung is sometimes used to increase elasticity and cohesion. Mud stoves are left to dry for a few days, usually in the sun.

Cost: $. Variables: production costs will rise if materials, such as clay or dung, have to be purchased.

Fuel: Firewood – and charcoal if a ceramic or metal grate is added.

Fuel saving:[90] Between 20 percent and 60 percent.

Fuel efficiency: Between 20 percent and 30 percent.

90. Fuel savings and fuel efficiency will vary depending on the precise model chosen, the materials selected and the construction process. This applies to all kinds of stove. For more information refer to http://www.pciaonline.org/files/Test-Results-Cookstove-Performance.pdf.

PROs	CONs
• Easy to build. • Materials are locally available. • Can accommodate multiple pots, and can be scaled to fit family's own pots. • Can be maintained autonomously by owner. • Can be used for space heating in colder climates. • Limited risks of burns.	• Average lifespan: 1-2 years only with diligent maintenance. • Needs regular maintenance to repair cracks and crumbling. • Limited portability: it can be heavy and fragile, or fixed to the ground. • Takes a long time to heat up: clay absorbs a lot of heat. • Efficiency may be lost through user modifications if a mould is not used. • Easy to overstuff with fuel: thus, easily damaged.

SOME GOOD PRACTICES

One-Pot Rocket Mud Stove

Disseminated in Kenya and Uganda, this mud stove has the advantage of being customized for the owners' saucepans. Production requires no sophisticated tools and can be conducted locally. Manufacturing can constitute a livelihood activity. One stove builder can produce about 300 stoves per year. Average retail costs vary between US$3-9 in Kenya, and US$ 1.5-3 in Uganda.

Anagi Stove

This stove was designed to satisfy the cooking needs of a family of six and to suit the culinary practices and tastes of Sri Lankan people. It burns firewood but also biomass residues such as coconut shells and palm leaves. Fuel efficiency tests have shown that it uses up to 30 percent less firewood than traditional stoves. If correctly insulated with a clay/mud cover, the Anagi stove can be used continuously for three years. Retail price can vary between US$0.81 and US$1.80.

Six-brick stove

Very easy to build, it requires just five-and-a-half bricks. The half brick is used to construct the opening to the fuel chamber. It uses up to 50 percent less firewood than traditional stoves. It is light and portable, and very cheap. Its price can vary between US$2 and US$3.

CERAMIC STOVES

Material: Clay stoves are made of clay mixed with local organic materials, such as sand, mica, straw, grass, sawdust and agricultural waste. They are fired in a kiln to increase durability. Some stoves are clad in metal to improve heat resistance and to make them stronger.

Cost: $ to $$. Variables: costs of materials, transport, and firing the stoves in local kilns.

Fuel: Firewood – and charcoal if a ceramic or metal grate is added.

Fuel saving: Up to 30 percent.

Fuel efficiency: Between 15 percent and 25 percent.

PROs	CONs
• Durable. • Portable. • Lower risk of burns. • Attractive (and therefore may be more readily accepted by beneficiaries). • Can generate income if manufactured and sold	• High degree of ceramic expertise required. • Clay needs to be mixed properly for the stoves to be efficient • Needs maintenance, although not as much as mud stoves. • Some raw materials are needed, such as vermiculite to attach the liner to cladding. • A mould is needed to ensure efficiency. • Overstuffing with fuel may cause damage.

SOME GOOD PRACTICES

JIKO Stove

The JIKO stove is used in several African countries, but is most commonly found in Kenya. It is small and portable, reinforced by a metal cladding, and uses between 30 and 40 percent less fuel than traditional stoves. Its cost ranges between US$4 and US$6.50.

Chitetezo Mbaula Stove

Produced entirely from locally available material, this stove has been designed to be cheap to produce. It therefore targets low-income households. The shielded fire reduces the risk of burns and fire accidents. Cleaner combustion prevents health problems arising from indoor air pollution. It is uses up to 60 percent less energy than a three-stone fire. It costs between US$0.90 and US$1.20.

ONIL Stove

Used in Guatemala, the ONIL stove consists of a fire-clay box which rests inside an insulated stove with a steel chimney. It uses up to 70 percent less firewood than traditional stoves. It has been calculated that women using this stove collect firewood two days less per week. The stove costs US$87.

PREFABBRICATED STOVES

There are two types of prefabricated stoves. One type is produced in a factory, and is delivered fully assembled; quality control levels are high. The other type is delivered in kit form, ready-to-assemble, and components are put together on site.

Material: Prefabricated stoves are made of steel or another strong metal. They may be made of sheet metal, which can be new or scrap. These stoves sometimes include ceramic liners or grates.

Cost: $$$. Variables: labour costs for assembly, import duties, and the costs of shipping and transport to site.

Fuel: Firewood – and charcoal if a proper grate is added.

Fuel saving: Between 30 percent and 60 percent. [91]

Fuel efficiency: Between 20 percent and 50 percent.

PROs	CONs
• Lightweight and portable. • Durable. • Heats up quickly. • Little maintenance is required. • Attractive.	• Can corrode quickly if not cared for properly. • Risk of burns from metal exterior when hot. • Requires more fuel preparation. • Assembly requires time, money and training.

91. Fuel saving depends on the model chosen.

SOME GOOD PRACTICES

StoveTech Stove

The StoveTech Stove is a prefabricated model design by Aprovecho. It uses 40-50 percent less fuel than a traditional stove and its emissions are between 50 and 70 percent lower. For humanitarian purposes, the StoveTech Stove is retailed at a price of US$15. However, the costs of transportation from the nearest port will increase the final unit price.
http://www.stovetec.net/us/index.php

Envirofit Stove

Envirofit prefabricated stoves are sold in many countries across Africa, Latin America and South East Asia. Emissions are reduced up to 80 percent. They lower fuel consumption by up to 60 percent, and emissions by up to 80 percent. The cooking cycle time is reduced by up to 50 percent. These stoves are costlier than others, but the price varies depending on the quantity of stoves ordered and the location to which they are to be delivered.
http://www.envirofit.org/

LEO Stove

Designed by Prakti Design Web, an Indian company, the LEOstove comes in three different models: one-pot, two-pots and two-pots plus a chimney. Like the other prefabricated stoves, they save on fuel and reduce emissions. Price for each stove is about US$20. Prakti Design Lab is active both in Asia and in Africa. They also designed the MOBY, an institutional prefabricated stove in five different sizes.
http://praktidesign.com/

ALCOHOL STOVES

Material: Metal.

Cost: $$$. Variables: import duties, shipping and transport to site.

Fuel: Ethanol and methanol.

Fuel efficiency:[92] 70 percent.

PROs	CONs
• Easy to use. • Portable. • Durable. • High social status. • Safe: fewer burns. Fuels used are safer because they do not explode, unlike LPG or kerosene for instance • IGAs by producing and selling ethanol	• Unaffordable for refugees without financial assistance. • Both stoves and fuel need to be supplied of by government or a humanitarian organization. • There is a risk that refugees will sell the fuel to generate income.

SOME GOOD PRACTICES

CleanCook Stove

The CleanCook stove is designed and distributed by Project Gaia in Brazil, Ethiopia, and Nigeria. These stoves can use both ethanol and methanol. In some areas, Project Gaia is involved in producing fuel to make running the stoves more affordable. If manufactured locally, the single-burner model costs about US$28, while the two-burner version costs about US$45. Beneficiaries say that the CleanCook stove is safer and cleaner that their old kerosene or LPG stoves, and that it cooks food more quickly than their previous biomass-fuelled stoves did.
http://www.projectgaia.com/index.php

92. It is not possible to provide data on fuel saving for non-woodfuel stoves, as the comparison is usually made between a woodfuel burning stove and a traditional three-stone fire.

LPG STOVES

Material: Metal.

Cost: $$$. Variables: import duties, shipping and transport to site.

Fuel: LPG.

Fuel efficiency: About 70 percent.

PROs	CONs
• LPG is a very clean fuel. • LPG cooks fast: 8-9 times faster than fuelwood. • Easy to store. • Attractive. • Non-toxic.	• Fuel is costly • Initial investment is very high. A fuel cylinder has to be purchased as well as the stove. • Fuel supply can be unreliable, especially if LPG is imported. • Affordability and distribution difficulties limit the stove's dissemination in rural areas. • LPG is a non-renewable fuel. • LPG is very volatile: if not stored in suitable conditions, the risks of burning are high

SOME GOOD PRACTICES

Practical Action

The British NGO Practical Action set up a microcredit initiative in Sudan to help households cope with the high upfront costs of switching from firewood to LPG stoves. Households were given up to six months to pay back the loans. To make the project sustainable, Practical Action also established two LPG refilling outlets close to the village in which the stoves were distributed.

Governments

Upfront costs for switching to LPG cooking are very high, hindering the uptake of this fuel by poorer people. For this reason, governments – such as those in Columbia, Indonesia, Peru and South Africa – subsidize dissemination initiatives. They distribute LPG cooking kits and keep LPG costs low so that more people can afford it. In doing so, these governments save lives and spare the environment.

KEROSENE STOVES

Material: Metal.

Cost: $$$. Variables: import duties, shipping and transport to site.

Fuel: Kerosene.

Fuel efficiency: Up to 45 percent.

PROs	CONs
• Pressurised stoves burn clean fuel. • Kerosene cooks fast, especially using pressurised stoves. • Heat is easy to control. • The fuel is easy to store. • Affordable: kerosene can be bought in small quantities.	• Wick type stoves are very unsafe. • Kerosene is highly inflammable. • Kerosene is poisonous if swallowed • Buying the stove and a fuel cylinder requires a high initial investment. • The price of kerosene varies and can be very high, especially in rural areas. • If wick type stoves are used, high levels of pollutants are produced, contributing to indoor-air pollution. • Kerosene smells unpleasant when burned and may taint the taste of food. • Kerosene is a non-renewable fuel.

Due to its drawbacks, kerosene is only the best options if access to other fuel is restricted – for example, in refugee camps.

SOME GOOD PRACTICES

Lanstove

The Indian Institute NARI invented this pressurised kerosene stove, which can be used simultaneously for both cooking and lighting. Indian women using the Lanstove say that it does not produce smell or soot like other kerosene stoves and that it is safe to handle. They say that it reduces the risk of house fires, and cooking is much faster. It is easy to control the flame, and the bright light makes them feel safe in isolated areas. The price per stove is US$46, but costs can be cut through mass production.

Kerosene stoves for refugees and IDPs

IOM, UNHCR and others distribute kerosene stoves to refugees and IDPs in camps where no firewood or any other type of fuel is available. They supply kerosene when necessary. In certain contexts – for example, where the environment is already damaged and other fuel strategies are not affordable – kerosene is the best solutions for refugees and IDPs.

INSTITUTIONAL STOVES

Institutional stoves are used to cook large amounts of food. They can be used in schools, orphanages, hospitals, prisons, and refugee camps. They are especially useful in early response stages when agencies need to cater for large influxes of people who require food urgently. They can also be used in restaurants, and are thus a tool for creating income-generating activities. Institutional stoves can accommodate between 50 and 300 litres of food.

Material: Soil, clay, mica, metal, and organic material, such as straw, grass, and sawdust. It depends on the institutional stove built.

Cost: $ to $$$. It depends on the type of institutional stove chosen.

Fuel: Firewood, charcoal, LPG, kerosene, briquettes, biogas. It depends on the type of institutional stove chosen.

Fuel efficiency: Up to 30 percent, depending on the type of institutional stove chosen.

PROs	CONs
• These depend on which type of institutional stove is chosen. • Generally, they produce less smoke, can be adapted to local food, and are sustainable long-term.	• These depend on which type of institutional stove is chosen. • Generally, they are more expensive than household stoves.

SOME GOOD PRACTICES

Malawi Institutional Metal Rocket Stoves

These institutional stoves use between 60 and 90 percent less firewood than traditional three-stone fires. They accommodate 100-litre pots. In Malawi, the average price is US$200.

ARTI-Tanzania

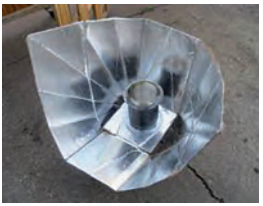
Installed in a secondary school in Dar es Salaam, the Compact Biogas System provided fuel for cooking meals for 110 students. Charcoal consumption was reduced of 1830 kg in a year, thus saving almost US$500. With negligible maintenance costs, and with the price of charcoal rising year after year, this fuel solution can be a great help to schools. Its price of US$2,000 includes the biogas plant, cement platform, biogas stove and training. http://arti-africa.org/

EcoStove

Originally developed in Honduras by the local NGO Proleña and then implemented also in Nicaragua, this stove cooks by using woodfuel and recirculating hot gases. Women can cook meals to be sold, generating some money for the household. Using only one third of the wood used previously, this stove makes the business more profitable. A chimney channels the smoke out of the kitchen, improving improves the family's health. http://www.prolenaecofogon.org/

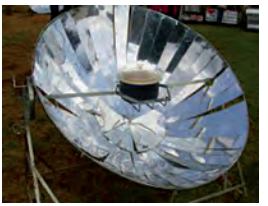
Additional cooking devices

SOLAR COOKERS



Panel type.
A curved reflector is placed around a cooking container and concentrates solar energy on that spot.

Box type.
A glass or plastic panel reflects the sun's heat into an insulated cooking container.



Parabolic type.
A reflective parabolic dish concentrates solar energy onto a central point where a cooking pot is balanced on a frame.

Material: The key component is reflective material to direct and transfer solar energy to the cooking vessel.

Cost: $$ to $$$. Variables: the type of solar cooker. Parabolic cookers are more expensive.

PROs	CONs
• No collection or purchase of fuel • Can be portable • No harmful emissions • Parabolic cookers can be used for institutional cooking	• Cooking with solar cookers is slow. • Not every food can be cooked: no deep frying and no grilling. Food cannot be regularly turned, which rules out using them to make some staples like injera or chapatti. • Use is dependent on the weather. • Must be continually adjusted to receive sunlight. • They cannot be used early in the morning or at night. • Some require special pots • Beneficiaries may fear changing cooking habits.

SOME GOOD PRACTICES

Solar Cookers International

This California-based firm promotes solar cooking in some African countries, such as Ethiopia, Kenya and Zimbabwe. The company provides both the panel and the box types, and prices ranges from a minimum of US$25 to a maximum of almost US$300.
http://www.solarcookers.org/index.html

CEDESOL Foundation

This Bolivian Foundation provided rural families in Bolivia with solar box cookers. After five years, 92.7 percent of solar cooking participants continued to use their solar cookers, and beneficiaries reported that they had changed their lifestyles to adapt to the auxiliary cooking device. Because of the inherent limitations of solar cookers, participants also used other energy sources, such as gas and wood, in tandem with the solar device. CEDESOL Foundation discovered that families fuel expenses reduced by up to 40 percent.

Cost: Missing price.
http://cedesol.org/

FIRELESS COOKERS

Material: Fireless cookers are made of hay, cloth, grass, straw, banana leaves or other insulting material.

Cost: $.

PROs	CONs
• Materials are available locally. • Made on-site. • Users do not have to tend a fire while cooking • They reduce the need for fuelwood • Portable • Production can become an income-generating activity	• Can be used only for long, slow-cooked foods, such as legumes, grain or rice. • Training and practice is needed. Some beneficiaries might be sceptical at first as to the utility of these cookers. • The basket must not be opened while cooking, otherwise heat will dissipate and efficiency will be decreased.

Hay basket cooking, Retained-heat cooking, Fireless cooking, Wonder box

All these names refer to the same method of cooking. Legumes or grains are boiled on an ordinary stove and then simmered for a few minutes. A lid is placed on the pot, which is then removed from the stove and put in an insulated box or basket, and covered with insulating material. Depending on the food cooked, this method enables users to save between 20 and 80 percent of the fuel that would be needed with a traditional stove. Cooking time is increased, but since the hay basket does not need to be tended, this is not a big problem. Another advantage of this method is that steam does not escape, and so water in the food is not lost. As well as saving fuel, hay basket cooking also saves water.

Fuel fact sheet

Solid fuels

BIOMASS

Biomass is organic material from plants or animals, which has not gone through a process of fossilization. It releases energy through direct combustion. Biomass is considered a renewable source.

Types of Biomass

- Wood
- Charcoal
- Dung
- Manure
- Crop residues
- Sugar cane
- Coconut and nut shells
- Sawdust

Firewood

Firewood is the most commonly used cooking fuel in nearly all camp settings – and indeed in most of the (non-displaced) world. Easy to use, it offers flexibility in cooking time and temperature, and cooks food quickly. However, in addition to the risks associated with its collection, firewood creates a lot of smoke when burnt and this increases the risk of respiratory illnesses. It can also be unsafe in windy or crowded environments. Nevertheless, wood-based fires have many benefits, including heating, repelling mosquitoes, or even binding thatch. Often, fire also plays a central role in the cultural life of families and communities. For this reason, many refugee and IDP women are reluctant to accept fuels that do not create a fire. Depending on how it is used, firewood can have different pros and cons:[93]

93. Pros and cons for all types of fuels are freely adapted from https://energypedia.info/index.php/GIZ_HERA_Cooking_Energy_Compendium#Cooking_with_Woodfuels_.28Firewood_and_Charcoal.29, accessed 7 February 2012.

Three-stone fire		Improved stove	
PROs	CONs	PROs	CONs
• Slow cooking allowing other work to be done simultaneously. • Repels mosquitos, and aids food preservation. • Used for heating and lighting.	• Inefficient cooking: high consumption of fuel and time. • Health risks	• Consumes less fuel • Emits less smoke • Cooks faster • Safer	• The cooks need to pay more attention to cooking. • No mosquito repellent or food preservation qualities. • No heating or lighting

Charcoal

Charcoal allows flexibility in cooking times and temperature, and can be reused if not fully burnt. It cooks food relatively quickly, and produces less smoke than firewood. However, charcoal produces more smoke than many other non-wood based fuels. Its main drawback is that charcoal production consumes more energy than the fuel yields during use. In displacement settings – particularly those in arid and/or very remote environments – charcoal production can have a negative impact on already fragile environments. This can lead to tension between refugees/IDPs and the host population.

PROs	CONs
• Energy-dense • Easy to handle • Doesn't emit much smoke	• Not universally affordable. • Highly inefficient production process: some of the wood's energy is lost during production • Production contributes to deforestation, as it uses green wood from live trees. • If used with the wrong stove, charcoal can produce high carbon monoxide emissions –at potentially lethal concentrations.

Biomass Briquettes

Biomass waste, such as grass, peat, agricultural waste, food waste or animal dung, can be processed, compacted and turned into briquettes which can be used to fuel cooking stoves. Their calorific value is about 70 percent of that of charcoal, and they are considered to be an eco-friendly alternative. They are valuable tools in efforts to save forests in already damaged environments. Biomass briquettes burn more cleanly than charcoal and firewood, and emit up to 40 percent less carbon dioxide into the atmosphere. When beneficiaries are involved in their production, biomass briquettes can offer a livelihood alternative. None of the versions produced so far has proven to be sufficiently efficient or sustainable for widespread promotion.

PROs	CONs
• High heating value • Easy and clean to handle • Predictable performance • Ready to use • Easy to store • Can represent a solution to waste management problems	• Viable only where households have purchasing power • Production requires large amounts of biomass waste not needed for anything else. • Where electricity is not available, only small-scale manual production is possible

Good practices

USAID is at the forefront of briquette technologies development. It has conducted feasibility studies and funds briquette projects in several countries.
http://www.usaid.gov/

The Banaspati Gueetha Resource Center Network (BG-RCNN) is a network of national NGOs, national, international and government organizations; industry leaders and businesses; and educational and research institutions. It is an information-sharing platform on technologies, feasibility and functionality of biomass briquettes. BG-RCNN is very active in, but not restricted to, Asia, especially Nepal.
http://www.bgrcnn.net/index.html

The Legacy Foundation (USA) provides technology assistance and training for the production of biomass briquettes. Mainly active in Africa and Latin America, the foundation also has experience in Asia.
Website: http://www.legacyfound.org/

Liquid fuels

From biomass processing, it is possible to obtain liquid fuels known as biofuels. These can be used for cooking, or, as an alternative to petrol, for transportation. Biofuels burn cleanly, temperature can be easily regulated, and users typically like them. Although these fuels can be produced from any biological carbon source, usually they are derived from plants. There are two common production strategies. The first involves growing sugar- or starch-containing crops and fermenting them to produce ethanol. The second involves growing crops that naturally produce oil, and then turning the oil into biodiesel.

Ethanol

Ethanol, or bioethanol, is an alcohol fuel derived from the fermentation of biomass rich in sugar or starches – or, more recently, from cellulose. The most common feedstock for bioethanol is:

- Sugar-based biomass, such as sugarcane, sugar beet, molasses, or sweet sorghum
- Starches, such as cassava (manioc), maize, wheat or potatoes
- Cellulosic material, such as wood, grasses or agricultural residues
- Organic municipal solid waste

PROs	CONs
• Very clean combustion • Safe for use indoors • Heat available instantly after ignition	• Low heating value (especially gel-ethanol) • Cooking might be slow (depending on stove) • High flammability and risks of incidents during transport and handling

Biodiesel

Biodiesel is obtained from certain types of vegetable oil, and from animal fats and recycled cooking grease. Most commonly, it is used as a substitute for petrol, but it can also be used as a cooking fuel. Main feedstocks for the production of biodiesel are:

- Jatropha
- Sunflower
- Soy
- Coconut palm
- African palm
- Algae
- Mahwa
- Mustard
- Hemp
- Millettia Pinnata

PROs	CONs
• Safe • Smell-free • Fast cooking	• Ignition requires an ethanol or methanol additive. • Simmering might be a problem, as it is difficult to keep heat low. • Requires regular cleaning of stove • Produces noise when burning

Methanol

Most commonly, methanol is derived from natural gas. However, this alcohol fuel can also be obtained from carbonaceous materials, such as wood, bagasse (a waste from sugar processing), grasses, and agricultural wastes. Methanol can also be manufactured from other production residues of other biodiesels.

Good practices

Project Gaia (USA) seeks to establish and promote the use of alcohol fuels (ethanol and methanol) that can be manufactured easily and locally for household energy. The association distributes the alcohol-burning CleanCook Stove, which is highly efficient and smokeless, in Brazil, Ethiopia and Nigeria.
http://www.projectgaia.com/index.php

GIZ implements a Programme for Basic Energy and Conservation in Southern Africa (PROBEC) in the South African Development Community (SADC). Its main objective is to promote improved energy solutions through market development and policy support. Spreading new knowledge on biofuels is just one of the three components of the project – the others being the promotion of efficient use of energy devices (especially cooking stoves), and policy advice.
http://www.probec.org/displaysection.php?czacc=&zSelectedSectionID=sec1192750452

FACT Foundation (the Netherlands) is a small foundation focusing on biofuels, especially on the production of biodiesel from Jatropha and other multi-purpose trees. They are running projects in Bolivia, Guinea Bissau, Honduras, Kenya, Laos, Mali, Mozambique and Panama.
http://www.fact-foundation.com/en

Liquefied petroleum gas (LPG) and Kerosene

Both LPG and kerosene are petroleum by-products. Even though they are fossil fuels, and produce substantial carbon emissions, it has been estimated that their carbon impact on the environment is less harmful than biomass burnt in cooking devices. The main drawback of these two fuels is their price: many people in developing countries cannot afford them. Because these fuels are derived from oil, their prices fluctuate like that of petroleum. Import and transportation costs, which also vary according to oil prices, add still more to the costs. Adopting either of these fuels requires a significant upfront investment: a stove (or, in the case of LPG, a cooker) must be bought; so, too must a fuel cylinder. Although, in the long run, these fuels would be more convenient than relying on biomass – especially firewood – the costs are prohibitive to most people in developing countries. Supplying these fuels via humanitarian aid is often the only way to improve access to them.

Kerosene		**LPG**	
PROs	CONs	PROs	CONs
• Fast cooking • Relatively clean-burning • Heat easy to control • Easy storage • Can be used both indoors and outdoors	• Tradable commodity • Highly flammable • Can produce high levels of pollutants if used in wick stoves • Unpleasant smell • Cooking fumes can taint food. • Poisonous if swallowed	• Very clean burning • Heat easy to control • Fast cooking • Easy to store	• Dangerous as it is a pressurized gas • High costs • Fuel supply can be unreliable

Good practices

While there is wide evidence of the use of kerosene in various displacement situations, none of the practices analysed can be accurately referred to as 'good'. For example, UNHCR distributes kerosene in refugee camps in Ethiopia. This fuel is not considered particularly safe by beneficiaries. They tend to use it as a tradable commodity – selling it to buy food, or to buy other fuels such as charcoal and firewood.

Practical Action Sudan introduced LPG stoves are brought into North Darfur. Analysis of their initial pilot project showed a reduction in greenhouse gas emissions and an 80 percent reduction in indoor air pollution; and improvements in environmental conservation and the protection of women.
http://practicalaction.org/low-smoke-stoves-1

Gas fuel

Biogas

Biogas is mainly produced mainly from animal manure, human excrement and agricultural waste. This 'raw material' is channelled into domestic biodigesters, which, in the absence of oxygen, converts it into methane gas. Methane can be used by households for cooking and lighting. The residue from biogas production, which is called bio-slurry, can be used as organic fertilizer for agriculture. By this stage, the slurry is sterile, and can be used for food crops.

PROs	CONs
• Very clean burning • Instant heat upon ignition • Easy heat control • Can be used for lighting too • The by-product can be used as fertilizer	• High upfront investments for the digester • Needs a continuous supply of feedstock (3-4 cows or 6 pigs per family). • Needs a continuous supply of water. • Feeding and maintaining the digester is labour-intensive. • Cultural rules might limit acceptance • Not suitable in cold areas, unless an exterior source of heat is provided

Good practices

EnDev Bolivia Project (part of the 'Energizing Development' World Programme co-funded by Germany and the Netherlands) aims at increasing the access to modern and sustainable energy. Biodigesters for the production of biogas for cooking fuel are one of the seven points of the project, geared at providing fuel for cooking.
http://www.endev-bolivia.org/

Appropriate Infrastructure Development Group (AIDG), USA, is active in Latin America and the Caribbean, especially in Guatemala and Haiti. Among other projects, they ran a biodigester project terminated in December 2010 in Guatemala. There, where they promoted the 'Salchicha' (sausage) type of biodigester, which is cheap and easy to install, and is therefore affordable to low-income rural households.
http://www.aidg.org/biodigesters.htm

SNV (the Netherlands), started its first project on biogas in Nepal in 1989. About two million people have now been equipped with biodigesters in Benin, Burkina Faso, Cambodia, Cameroon, Ethiopia, Indonesia, Kenya, Laos, Pakistan, Rwanda, Senegal, Tanzania, Uganda and Vietnam.
http://www.snvworld.org/en/ourwork/Pages/Potential_of_domestic_biogas.aspx

Biomass Gasification

Gasification is the process of converting solid fuel, such as wood and agricultural residues, into a combustible gas. There are two are the types of gasification: wood-gasification, which is driven by pyrolysis and leaves char behind; and char-gasification, which is driven by oxidation of hot char and leaves ash behind.

Pyrolysis and Biochar

When biomass – crop residues, food and forestry waste – is exposed to high temperature in the absence of oxygen, it is transformed into charcoal and wood gas. This process is due to thermochemical decomposition, called 'pyrolysis'. Volatile gas produced in this way can be burnt as fuel. Pyrolytic cookstoves, a type of gasifier, use this process to increase combustion efficiency and to reduce the emission of air pollutants. In optimal conditions, they produce a uniform and steady flame. Because they are safe, and combustion is durable, pyrolytic stoves allow cooks to get on with other things while food is cooking. Instead of ashes, the stoves produce biochar. Biochar is carbonized organic matter which can be used to enrich soil – to the extent that it is now having an impact on agricultural productivity, and thus on food security. Biochar also allows a degree of carbon sequestration because it has a very stable structure which is hardly decomposed at all by soil microorganisms.

Good practices

Biomass Energy Foundation (USA) has worked on gasification since its establishment in 1984. At the moment they produce a WoodGas cookstove which uses twigs, chips or wood-pellets to cook in a clean and environment-friendly way.
http://www.woodgas.com/woodgasstoves.htm

Holey Briquette Gasifier Stove was developed in 2003 by Richard Stanley and Kobus Venter. It uses non-woody briquettes made, for example, of mango/cassava leaves and waste paper to burn and it has an efficiency of up to 35 percent.
http://www.bioenergylists.org/stovesdoc/Stanley/BriqGassstove.htm#Fuel%20Type

WorldStove (Italy) designed the LuciaStove, which burns biomass through pyrolysis and produces biochar. Pilot programmes have been conducted in Burkina Faso, Congo, Haiti, Kenya, Indonesia, Malawi, the Philippines, Niger, Uganda and Zaire.
http://worldstove.com/products/luciastove-for-developing-nations/

International Biochar Initiative is a member-based organization promoting biochar initiatives in 34 countries worldwide. It focuses on biochar technology and impacts, taking in consideration also the potential of biochar-producing stoves for benefiting soil, environment and health. Two are the types of stove proposed: the TLUD stove and the Anila stove.
http://www.biochar-international.org/technology/stoves

Resources

Guidance material

Author	Year of Publication	Title
Aprovecho Research Centre, Shell Foundation and Partnership for Clean Indoor Air	2006	Design Principles for Wood Burning Cook Stoves
Aprovecho Research Centre		Cooking with Less Fuel: Breathing Less Smoke
Energia	2005	The Gender Face of Energy
GIZ – Hera	2011	Carbon Markets for Improved Cooking Stoves. A GIZ Guide for Project Operators
GIZ – Hera	2011	Micro-gasification: Cooking with Gas from biomass. An Introduction to the Concept and the applications of Wood-Gas Burning Technologies for Cooking
HELPS International	2007	Guide to Designing Retained Heat Cookers
Institute for Environmental Security	2009	Renewable Energy for Africa. An Overview of Nine Potential Technologies
Mercy Corps	2010	Basic Guide to Fuel Efficient Stoves and Emission Testing
Mercy Corps	2010	10 Steps for Carbon Credited Supported Projects

Author	Year of Publication	Title
UNDP	2004	Gender and Energy for Sustainable Development: a Toolkit and Resource Guide
UNHCR	2002	Cooking Options in Refugee Situations. A Handbook of Experiences in Energy Conservation and Alternative Fuels
USAID	2010	Fuel-Efficient Stove Programs in Humanitarian Settings: an Implementer's Toolkit
WHO	2008	Evaluating Household Energy and Health Interventions. A Catalogue of Methods.

Networks and alliances

Name	URL	Focuses
Energia	http://www.energia.org/	Gender and Energy, capacity building, gender mainstreaming in energy projects/markets, policy influencing, networking
Global Alliance for Clean Cookstoves	http://cleancookstoves.org/	Stoves, health, environment livelihoods, women

Name	URL	Focuses
International Network on Household Energy in Humanitarian Settings	http://www.fuelnetwork.org/	Energy, stoves, protection, livelihoods, food security and nutrition, health, environment, shelter, camp management, public awareness
The Partnership for Clean Indoor Air	http://www.pciaonline.org/	Stoves, indoor air pollution, health, household energy

Organizations

Name	URL	Focuses
Aprovecho Research Centre	http://www.aprovecho.org/lab/home	Stoves, climate change, indoor air pollution, deforestation
Berkley Air Monitoring Groups	http://www.berkeleyair.com/	Carbon monitoring, Indoor air pollution monitoring, lab testing
Co2balance	http://www.co2balance.com/	Carbon emission offsetting projects
GIZ – HERA programme	http://www.gtz.de/en/themen/umwelt-infrastruktur/energie/32478.htm	Energy for cooking, energy for lighting and communications, biomass energy strategies.

Name	URL	Focuses
Practical Action – Energy	http://practicalaction.org/energy	Improved stoves, alternative energy.
SNV	http://www.snvworld.org/	Renewable energy, biogas, biofuels, improved cooking stoves
StoveTec	http://www.stovetec.net/us/	Stoves design and manufacturing, lab testing, carbon credit projects
USAID	http://www.usaid.gov/	Alternative energy and fuels, clean cooking-stoves projects

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GIZ	2007	Economic Evaluation of the Improved Household Cooking Stove Dissemination Programme in Uganda

Author	Year of Publication	Title
GIZ	2009	Results Assessment. Survey on Impacts of the Stove Project in Transmara, Western and Central Cluster of Kenya.
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Klingshirn, A.	2006	Chances and Limitations of Solar Cookers. A Critical Review and New Avenues.
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Author	Year of Publication	Title
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Women's Refugee Commission	2010	Biomass Briquetting in Sudan: a Feasibility Study

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Name	URL	Keywords
Bioenergylist	http://www.bioenergylists.org/	Stoves, fuels, refugee/IDP
CDM Rulebook	http://www.cdmrulebook.org/	Rules, practice and procedures for Clean Development Mechanism
Energypedia	http://energypedia.info/index.php/Main_Page	Energy, stoves
Hedon	www.hedon.info	Energy, stoves, fuels, project design
Practical Answers – Energy	http://practicalaction.org/practicalanswers/	Energy, stoves

SAFE

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