IASC Inter-Agency Standing Committee

Tool

DECISION TREE DIAGRAMS ON FACTORS AFFECTING CHOICE OF FUEL STRATEGY IN HUMANITARIAN SETTINGS

Task Force on Safe Access to Firewood and Alternative Energy in Humanitarian Settings

April 2009

Endorsed by IASC Principals

IASC Inter-Agency Standing Committee

TASK FORCE ON SAFE ACCESS TO FIREWOOD & ALTERNATIVE ENERGY IN HUMANITARIAN SETTINGS

Decision Tree Diagrams on Factors Affecting Choice of Fuel Strategy in Humanitarian Settings

Version 1.1., April 2009

How to use these Decision Tree Diagrams

These Diagrams are one of three main outputs of the InterAgency Standing Committee Task Force on Safe Access to Firewood and alternative Energy in Humanitarian Settings (IASC Task Force SAFE). The other two outputs are the "Matrix on Agency Roles and Responsibilities for Ensuring a Coordinated Multi-Sectoral Fuel Strategy in Humanitarian Settings" and the International Network on Household Energy in Humanitarian Settings and its informational website, www.fuelnetwork.org. All three outputs provide practical guidance on developing effective, holistic coordination and response mechanisms for the range of concerns associated with the collection, supply and use of household energy in humanitarian settings. These Diagrams should be read in conjunction with the Matrix for guidance as to which clusters/agencies are responsible for ensuring that specific fuel-related activities are undertaken. For additional technical information, please refer to www.fuelnetwork.org and to the pre-loaded flash drive that accompanies the hard copies of these outputs.

The goal of these Diagrams is to address the range of and difference between fuel-related needs in the field – recognising that there is no single fuel or energy technology appropriate for use in all humanitarian contexts. Thus, the Diagrams present a clear means of determining which factors should influence the choice of fuel strategy in an individual setting, based on simple responses to a series of questions about local priorities, access, availability, etc. The term "strategy" is used to reflect the fact that many settings may require more than one type of fuel or energy technology, especially over the long term.

Recognising that short- and long-term fuel strategies may by necessity be different, the Diagrams cover two response phases: acute emergency and protracted settings. The acute emergency Diagram is particularly intended for emergency response teams, site selectors/site planners and camp managers at the outset of a new emergency and, as such, focuses on only the most essential fuel-related concerns. The protracted settings Diagram is intended for all field-based actors with responsibility for determining a long-term fuel strategy and, as such, provides guidance on the inter-linkages between a series of considerations and the cross-sectoral ramifications of each.

Importance of Participatory Assessments

Participatory assessment is a process of building partnerships with displaced communities by promoting meaningful participation by people of all ages and backgrounds through structured dialogue. An in-depth participatory assessment with refugee and IDP communities, as early as possible after their displacement, is important for a variety of reasons outlined in more detail at www.unhcr.org/protect.html. Specific to fuel, however, participatory assessments are key to ensuring the long-term viability and sustainability of a fuel strategy. Simply put, if the fuel strategy does not respond to the needs, habits and preferences expressed by the community itself, the community will seek other fuel options – including perhaps the unsafe or unsustainable options that these Diagrams are attempting to minimise.

A detailed methodology for conducting multifunctional participatory assessments is available at www.unhcr.org/protect.html. In addition, a questionnaire for beneficiaries specific to cooking fuel needs and preferences is available on the accompanying flash drive or can be downloaded from www.fuelnetwork.org.

It is imperative that participatory assessments with beneficiaries are conducted alongside the use of these decision tree Diagrams, as an integral part of the process for determining the most appropriate and effective fuel strategy in a particular setting.

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Decision Tree Diagram for Choosing a Cooking Fuel Strategy in Acute Emergencies

Version 1.1., April 2009

BOX 1:
ARE FUEL SOURCES LOCALLY AVAILABLE (FOR COLLECTION)?

YES

BOX 2:
Do protection risks inhibit collection?

YES →

Box 2.1:
Consider firewood patrols (A) or direct provision (B)

PATROLS

A. Are peacekeepers/CivPol/community-based protection mechanisms present?

YES

A1. Are there unmarked landmines in collection areas?

YES → **A2.** Consider direct provision (see Box B) and/or begin development of alternative fuel (see box "Common Fuel/Energy Technology Options")

NO

A1.a. Assess considerations in Box 2.2, then adapt and implement template for patrol guidelines (see www.fuelnetwork.org)

NO

A2. Consider direct provision (see Box B) and/or begin development of alternative fuel (see box "Common Fuel/Energy Technology Options")

PROVISION

B. Assess all 5 considerations (B1-B5) for each option before selection

1

B1. Is secure physical infrastructure in place for fuel transport?

YES

B1.a. Calculate cost of materials, transport, distribution (as relevant)

HIGH → **B1.b.** Seek dedicated funding and/or begin development of alternative fuel (see Box "Common Fuel/Energy Technology Options")

LOW

B1.a1. • Ensure sourcing/provision is in accordance with local laws/regulations
• Assess all 4 other considerations, then begin provision

NO

B1.b. Seek dedicated funding and/or begin development of alternative fuel (see Box "Common Fuel/Energy Technology Options")

2

B2. Is the fuel choice being considered sustainable? (continue at Box 2.2)

3

B3. How are the options for safe storage/use?

BAD

B3/B4.a. Assess all 4 other considerations, then begin provision

GOOD

B3/B4.a. Assess all 4 other considerations, then begin provision

4

B4. Are users familiar with the fuel choice being considered?

FAMILIAR

B3/B4.a. Assess all 4 other considerations, then begin provision

UNFAMILIAR

B3/B4.b. Conduct awareness-raising/safety campaigns

5

B5. Is there a strong market for re-sale (of fuel choice)?

NO

B5.a. Assess all 4 other considerations, then begin provision

YES

B5.b. • Factor into rationing amounts
• Conduct awareness-raising on protection risks associated with collection

OR

B5.b.1. Consider a different fuel choice (see Box "Common Fuel/Energy Technology Options")

NO →

Box 2.2:
Assess both local laws/regulations (C) and environmental sustainability (D)

LAWS

C. Are laws/regulations in place re: access to land/resources?

LESS RESTRICTIVE

C/D1. Are relationships with hosts collaborative?

YES

C1.a. Work with hosts to ensure sustainable collection/regeneration

NO → **C/D2.** Consider direct provision (see Box B) and/or begin development of alternative fuel (see Box "Common Fuel/Energy Technology Options")

RESTRICTIVE

ENVIRONMENT

D. Is local fuel sourcing environmentally sustainable?

NO

C/D2. Consider direct provision (see Box B) and/or begin development of alternative fuel (see Box "Common Fuel/Energy Technology Options")

YES

COMMON FUEL/ENERGY TECHNOLOGY OPTIONS
(SEE ALSO PROTRACTED SETTINGS DECISION TREE)

Can be directly provided:
liquefied petroleum gas (LPG); ethanol; solar; kerosene; fuel-efficient stoves (FES - all models); charcoal; firewood; briquettes

(Often) locally available and less expensive:
biogas (raw materials); mud/clay FES; charcoal; firewood; briquettes

(Often) imported and more expensive:
LPG: biogas (digesters); solar; metal FES

See www.fuelnetwork.org or accompanying flash drive for more information

(Note: as used in both Diagrams, "fuel" encompasses any and all possible cooking fuels/energy technologies. See the methodology section, accompanying flash drive and www.fuelnetwork.org for additional information).

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Decision Tree Diagram for Choosing a Cooking Fuel Strategy in Protracted Settings

Version 1.1., April 2009

1 AVAILABILITY OF FUEL

1A. Materials

- (typically) locally available
  - **1A.1** Biogas (raw materials); mud/clay fuel-efficient stoves (FES); charcoal; firewood; agro-waste briquettes
- (typically) imported
  - **1A.2** Liquefied petroleum gas (LPG); ethanol; biogas (digesters); solar cookers; metal FES; kerosene

1B. Environment/climate

- less fragile
  - **1B.1** All options *may* be considered after additional assessment of long term sustainability
- more fragile
  - **1B.2** Consider only environmentally-sustainable options (solar; biogas; sustainably-sourced ethanol; sustainably-sourced agro-waste briquettes)

1C. Amount of funds available for fuel provision

- more
  - **1C.1** Higher-cost options *may* be considered
- less
  - **1C.2** Consider only lower-cost options (solar – cardboard models; mud/clay FES; firewood; agro-waste briquettes)

2 ACCESS TO FUEL

2A. Physical protection risks associated with collection/production

- lower
  - **2A.1** All options *may* be considered with continued careful attention to the potentially-changing protection situation
- higher
  - **2A.2** Consider only options with lesser protection risk: direct provision of fuel by designated authorities and/or properly-managed patrol or escort system

2B. Transport infrastructure

- good
  - **2B.1** Externally-sourced options *may* be considered in addition to local options (continue at Box 1A)
- bad
  - **2B.2** Consider only locally-sourced options (see Box 1A.1)

2C. Laws/regulations re: access to land, resources

- less restrictive
  - **2C.1** All options that are in accordance with local laws/regulations *may* be considered
- more restrictive
  - **2C.2** Consider only options that typically do not require favourable legislation (solar; FES)

2D. Relationships with hosts

- good
  - **2D.1** All options may be considered (in collaboration with hosts)
- bad
  - **2D.2** Consider only options with a limited environmental impact and/or that are not dependent on hosts: solar; FES; direct provision of externally-sourced fuels

3 USE OF FUEL

3A. Cultural considerations

- always important
  - **3A.1** Undertake participatory assessments/focus groups to determine:
    - Familiarity of users with fuel types/available options
    - Community preferences
    - Cooking habits/needs
    - Other potential uses for fuel (see www.fuelnetwork.org or accompanying flash drive for adaptable questionnaire)

3B. Health/safety impact (during use)

- lower negative impact
  - **3B.1** LPG; solar; biogas; ethanol; kerosene* (*lower air pollutant emission)
- higher negative impact
  - **3B.2** Firewood; charcoal; (most) agro-waste briquettes; kerosene* (*higher fire/burn risk)

3C. Possibilities for using fuels as livelihoods activity

- more
  - **3C.1** Manufacture or assembly of FES; manufacture of charcoal/ agro-waste briquettes; assembly of solar cookers; maintenance/ repair of FES, solar, biogas digesters
- less
  - **3C.2** Direct provision; LPG; kerosene

Undertake market and user surveys

ADDITIONAL CONSIDERATIONS

- **1A.1:**
  - Local sourcing is typically less expensive
  - Ensure local sourcing is environmentally-sustainable (see Box 1B)
  - Ensure local sourcing is in accordance with local laws/regulations (see Box 2C)
- **1A.2:**
  - Ensure funds are sufficient for long-term provision of externally-sourced fuels and/or begin development of less expensive alternatives
  - Solar cookers will require a secondary fuel for rainy season, etc.
- **1B.1:**
  - To lessen environmental impact over long term even in less fragile environments, if using biomass materials (firewood, charcoal, etc.), ensure mitigating measures are put in place (reforestation, etc.)
- **1B.2:**
  - Relationships with hosts are especially important in fragile environments (see Box 2D)
- **1C.1 / 1C.2:**
  - In determining cost, consider (as appropriate) cost of: materials; production; labour; transport; and/or distribution
  - Assess both start-up and ongoing costs
- **2A.1:**
  - Ensure that vulnerable populations always have sufficient access to fuel
  - Continually monitor protection situation: ensure that fuel collection itself does not increase protection risks (competition with hosts over access to scarce resources, etc.)
  - Ensure fuel collection is sustainable (see Box 1B) and in accordance with local laws/regulations (see Box 2C)
- **2A.2:**
  - If considering direct provision, undertake all five assessments noted in Acute Emergency Decision Tree, Boxes B1-B5
  - If considering patrols/escort systems, see Acute Emergency Decision Tree, Box A
- **2B.1:**
  - Transport cost and long term sustainability of transport infrastructure may also be a factor (see Box 1C)
- **2B.2:**
  - Ensure all local materials are sourced in accordance with local laws/regulations (see Box 2C)
  - Relationships with hosts are especially important when considering locally-sourced options (see Box 2D)
- **2C.1:**
  - Ensure proper advance consultations with local authorities/hosts (see Box 2D)
- **2C.2:**
  - Work with local authorities to ease legislative restrictions where possible
- **2D.1:**
  - Use caution when considering higher-impact options, including: firewood; charcoal; direct provision of locally-sourced biomass resources (due to risk of environmental degradation; competition over access to resources); and biogas (due to possible regulations re: land ownership/use)
  - Ensure that option chosen is sustainable over long term (see Box 1B); undertake conservation/regeneration activities
  - Ensure that option chosen is in accordance with local laws/regulations (see Box 2C)
  - Ensure proper advance consultation with local authorities/hosts
  - If possible, provide fuel to hosts to reduce possibility of tensions, especially over long term and/or in resource-poor environments
- **2D.2:**
  - If possible, provide fuel to hosts to avoid worsening relationships
  - Work with hosts to devise plan for reducing tensions over access to natural resources, including conservation/regeneration
- **3A.1:**

  Knowing WHAT and HOW users cook is key to ensuring adoption of fuel. For example:
  - Some biomass briquettes do not allow flexibility of cooking time/temperature
  - Cardboard/box model solar cookers are slow
  - Solar cookers should only be used as part of a system integrating other fuels (for rainy season, etc.)
  - Some FES models reduce smoke
  - Many FES models allow only one size pot
  - Pressurised fuels may present safety concerns for unfamiliar users (see Box 3B)
- **3B.1:**
  - Also assess safety during transport/storage: pressurised and/or highly combustible fuels should be carefully considered and may require specialised training
  - Some models of FES can reduce the negative health/safety impacts of higher-risk fuels such as firewood (by containing the fire; reducing smoke)
  - Improved technologies such as chimneys and well-ventilated shelters can also mitigate negative health effects of some fuels
- **3B.2:**
  - Negative health impacts include indoor air pollution and fire/burn risk (see above for mitigation measures)
- **3C.1:**
  - Ensure all livelihoods options (including fuel-related) are environmentally-sustainable (see Box 1B) and in accordance with local laws/regulations (see Box 2C)
- **3C.2:**
  - Assess market for re-sale by beneficiaries of directly-provided fuels (as an income-generation activity) and address consequences (e.g. possible resort to unsafe fuel collection for household needs)

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The Inter-Agency Standing Committee (IASC) was established in 1992 in response to General Assembly Resolution 46/182, which called for strengthened coordination of humanitarian assistance. The resolution set up the IASC as the primary mechanism for facilitating inter-agency decision-making in response to complex emergencies and natural disasters. The IASC is formed by the heads of a broad range of UN and non-UN humanitarian organisations. For further information on the IASC, please visit its website at www.humanitarianinfo.org/iasc

Additional information on this publication can be found on the accompanying pre-loaded flash drive, or on the website of the International Network on Household Energy in Humanitarian Settings: www.fuelnetwork.org

For feedback and suggestions for the improvement of this publication, please e-mail: iasc@fuelnetwork.org

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- Department of Peacekeeping Operations (DPKO)*
- Food and Agriculture Organization (FAO)[1]
- International Federation of Red Cross and Red Crescent Societies (IFRC)[2,*]
- International Organization for Migration (IOM)[2]
- Office for the Coordination of Humanitarian Affairs (OCHA)[1]
- Office of the High Commissioner for Human Rights (OHCHR)[2,*]
- UN Children's Fund (UNICEF)[1]
- UN Development Programme (UNDP)[1]
- UN Environment Programme (UNEP)*
- UN High Commissioner for Refugees (UNHCR) – **Co-Chair**[1]
- UN Human Settlements Programme (UN-HABITAT)[1]
- UN Industrial Development Organization (UNIDO) Khartoum*
- UN Population Fund (UNFPA)[1]
- Women's Refugee Commission (working under the authority of InterAction) – **Co-Chair and Secretariat**
- World Food Programme (WFP) – **Co-Chair**[1]
- World Health Organization (WHO)[1]

Other standing invitees of the IASC are:

- International Committee of the Red Cross (ICRC)
- International Council of Voluntary Agencies (ICVA)
- Representative of the Secretary-General on the Human Rights of IDPs
- Steering Committee for Humanitarian Response (SCHR)
- World Bank

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[1] IASC Member Agency [2] IASC Standing Invitee * part-time Task Force member

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