Lawrence Berkeley National Laboratory
Darfur Cookstove Project

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North Darfur IDP Camps

analysis of wood availability and appropriate fuel efficient cookstove technologies

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Background

The Darfur Conflict and IDP Crisis

Project Genesis and Preparation

In Country

Life in the IDP Camps

Scarcity of Firewood: Personal Security and Food Security

Fuel Efficient Cookstove Alternatives and Strategies

The Darfur Conflict and IDP Crisis

Roots and Nature of the Conflict

Genocide as a Political Strategy

Displacement of People

Roots and Nature of the Darfur Conflict

Years of Drought: late 1980's – early 1990's

Arab – Fur Agression: 1987 - 1989

al Bashir Regime: Political and Economic Marginalization

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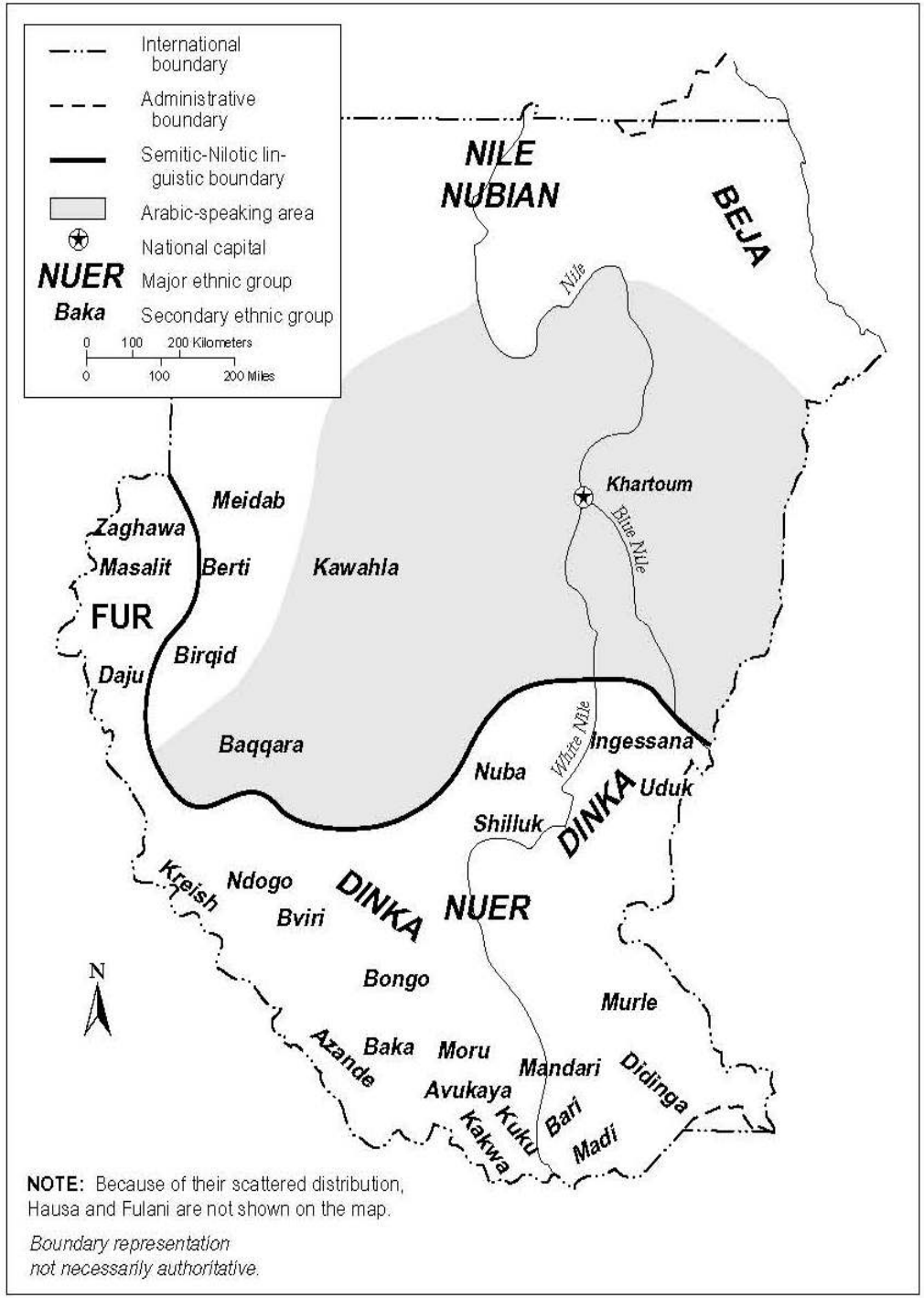

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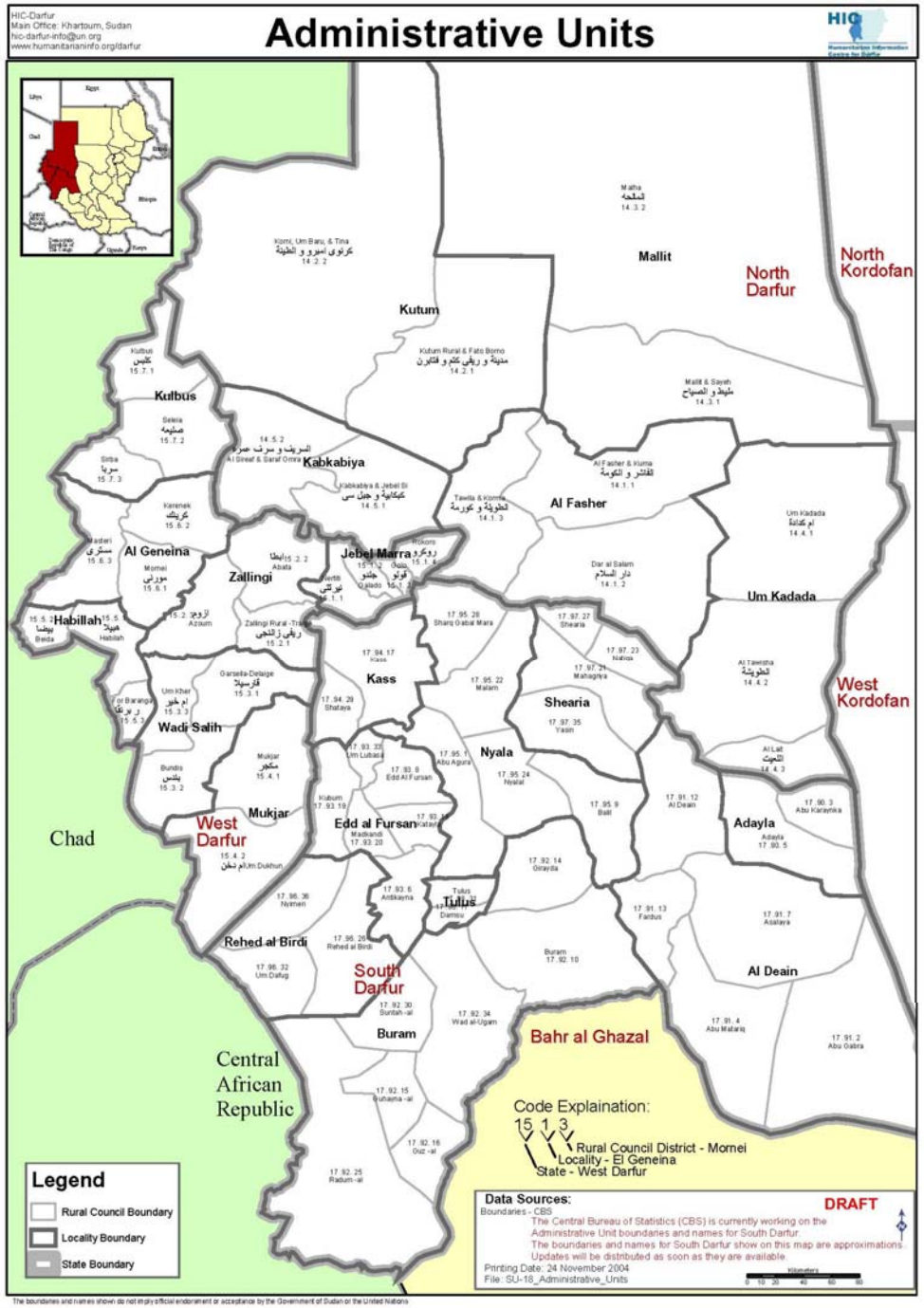

Roots and Nature of the Darfur Conflict

Rise of the SLA: February 2003

Protesting “policies of marginalization, racial discrimination, exclusion, exploitation, and divisiveness.”

Roots and Nature of the Darfur Conflict

Exclusion from the Southern Peace Talks

Militarization of the SLA: April 2003

Genesis of Genocide

Brutal Response of the Government:
Aerial Bombing of Villages in North Darfur

Genesis of Genocide

al Bashir Appeal to Arab Sheikhs: July 2003

Sheikh Musa Hilal and the Rise of the Janjaweed

Genesis of Genocide

Strategy of Genocide: Kill the Men, Rape the Women

The IDP Crisis

More that 2 Million Internally Displaced People

More than 250,000 Refugees Across the Chad Border

IDP Camps Operated by INGOs

Monitoring by African Union Troops

Project Genesis

USAID Contacts Ashok Gadgil of LBNL

“If we cannot develop an alternative source of fuel, we can at least help the people get the most from what little fuel they have.”

Preparation

Work with Research Institutions

Learning the basics of efficient stove design at Aprovecho, the world's leading research institution dedicated to the design of efficient biomass stoves

Preparation

Work with NGOs

Meeting with NGOs working in efficient stove design in the U.S. and India to learn a variety of strategies in design and program implementation

Preparation

Work with Efficient Stove Users

Learning the “people’s engineering” of the rag-pickers of the Ramapir No Tekro slum in Ahmedabad, Gujarat, India. How do they make stoves to minimize use of precious fuel?

In Country

El Fasher, North Darfur

Life in the IDP Camps

Habitat

Water

Sanitation

Food

Food

Food

Livelihood

Livelihood

Spirit of the People

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LBNL Darfur Cookstove Project Phase I

The LBNL Darfur Cookstove Project was funded on the initiative of USAID/OFDA to reduce the need for women to collect firewood for cooking, thereby reducing the personal security threat they face while collecting.

There is no “proper” wood in this area.

There is no such thing as “agricultural waste.”

The scarcity of biomass fuel means that, as a practical matter, relatively few IDPs collect cooking fuel.

Household Interviews

Economics of the household
Consumption of firewood
Diet and cooking techniques
Other environmental, social, and security issues

Study the Economics of Cooking Fuel

Alternative Fuels
Supply and Distribution
Cost
Micro-Economic Effect on Household Budgets

Analysis of Existing Cookstoves

Three-Stone Fires

Analysis of Existing Cookstoves

Mud & Dung FES Stove

Testing of Prototypes under Local Conditions

Conduct Demonstrations (Market Research)

Teach Efficient Fire-Making Techiniques

Engineer Appropriate Stoves

Ascertain Sourcing of Materials and Labor

Key Findings

Scarcity of fuel implicates *both* personal security and food security

- >80% of households are forced to miss meals, even when they have food rations because they have no fuel to cook it
- >80% of households sell food rations to buy wood

Key Findings

Scarcity of fuel implicates creates extreme economic hardship

- The cost of one day's fuel for one family is approximately the earnings from a full day's labor
- Women who collect fuel substantially diminish their opportunity to earn income
- Women who collect fuel have significant child-rearing difficulties

Key Findings

Fuel Efficient Cookstoves Can Save As Much As 65% of the Fuel Currently Being Used

- The average family could make three meals with the same quantity of fuel they currently use for one meal
- Given the extreme expense of wood, a fuel efficient stove would pay for itself in 6 – 10 days of use, for the average family.
- Any increase in fuel efficiency represents a corresponding reduction in personal risk to women who collect fuel, as well as economic savings

Key Findings

The IDPs Must Be Taught Techniques for Building More Efficient Fires

- Current fire-making techniques are based on tradition and custom developed in times of abundance.
- Extremely inefficient use of scarce resource
- Although it is difficult to quantify, we believe that the IDPs can save nearly as much wood by altering their fire-making techniques by adopting more efficient stove technology.

LBNL Darfur Cookstove Project Phase II

- Implement Pilot Roll-Out
  - Manufacturing and Assembly
  - Establish Commercial or Quasi-Commercial Distribution Model
  - Develop Language-Proof Curriculum
- Assess Success of Pilot Program
- Scale-Up for Widespread Distribution

LBNL Darfur Cookstove Project Phase II

- Funding Uncertain
  - USAID/OFDA Cut CHF Budget
  - CHF Cut Our Program
- Attempting to Raise Private Funding for Phase II

end