Ethiopia Cookstove Project

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Outline

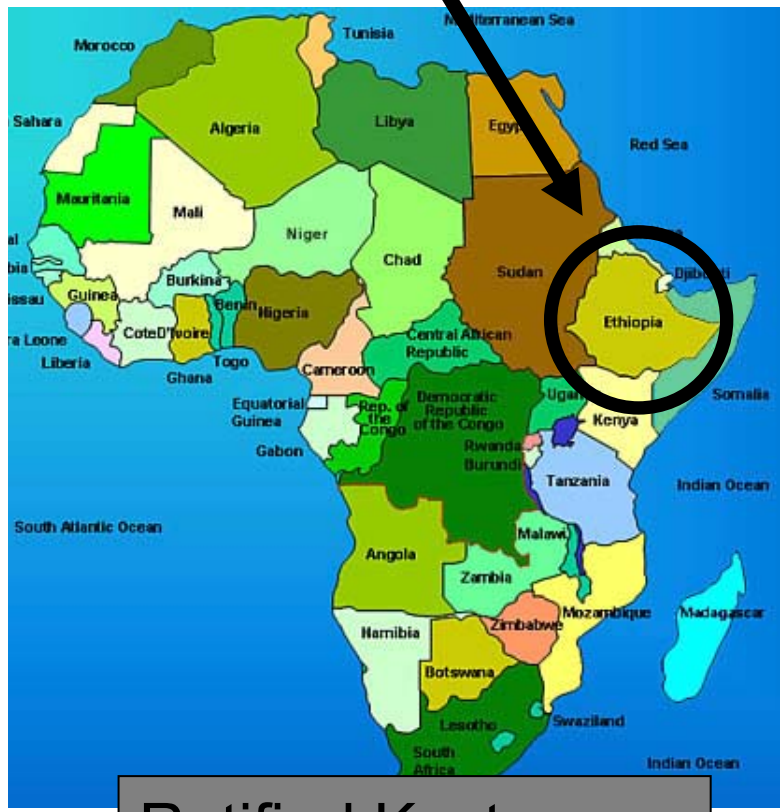
Overview and background of project

- Ethiopia and project site
- Scope
- Status

Lessons Learned (and Learning)

Background: Ethiopia

- Population: 75 million
  - 84% rural
- Development challenges
  - #171 (of 182) in UN's Human Development Index
  - 39% earn less than $1(US)/day
  - Agriculture is primary economic driver
- Environmental challenges
  - Losing 1-1.5% forest cover per year, high forest cover is 2.7% of its original extent (FAO, 2007)
  - cover is 12%, down from 35% cover at beginning of 20th century (EAFP)



Ratified Kyoto Protocol in 2005

Background: Project Area

Project Area: North Shewa Zone
Yaya Gullele district, Oromia State

–Pop: 94,000 (279/km); mostly rural

–Highland plateau, 1400-3000 meters, varied climates

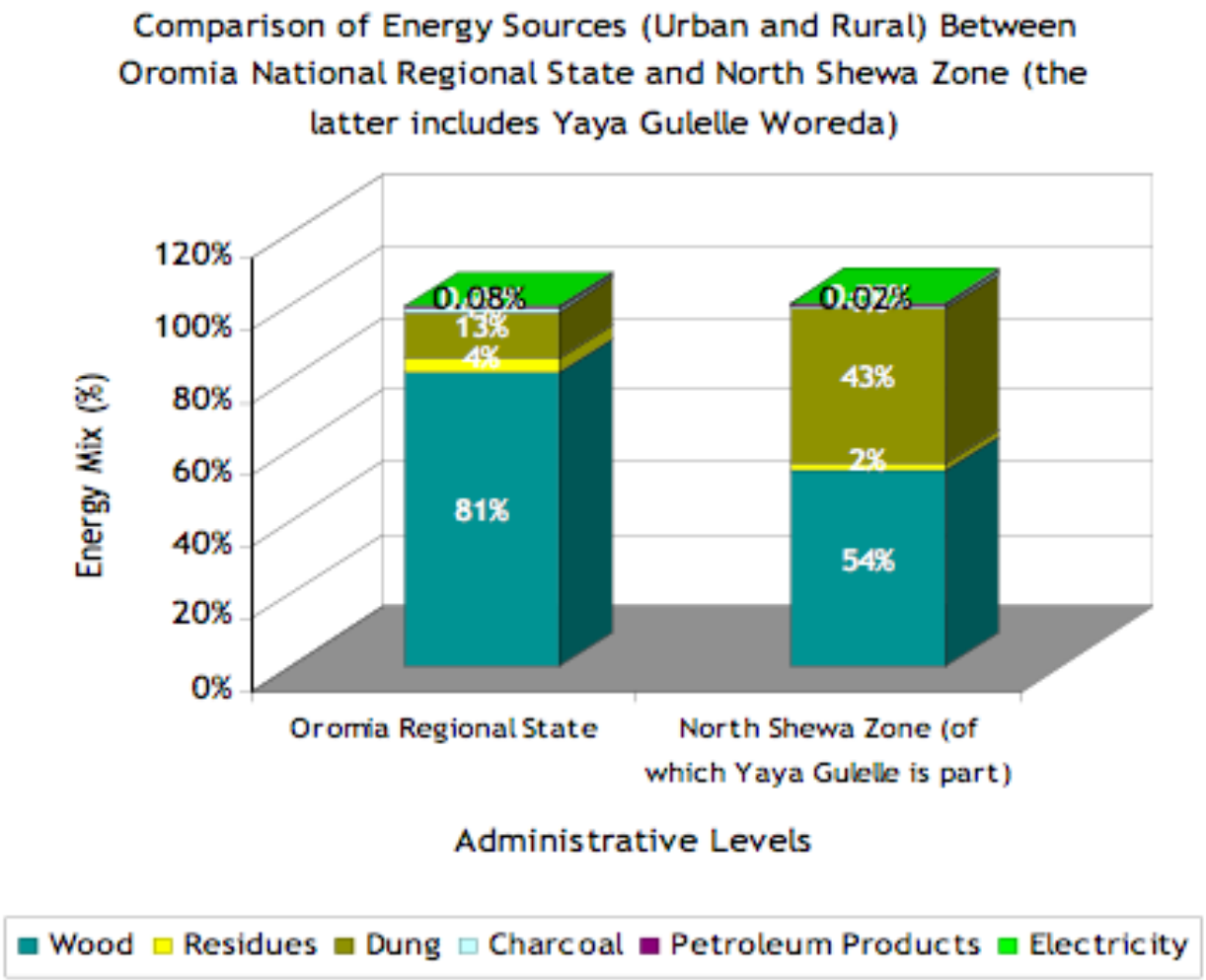
–Subsistence agriculture (currently rely on food aid)

Natural forest in project area almost entirely eliminated

–3% natural forest remaining

–70% of land under cultivation

Background: Project Area



Families rely on eucalyptus plantations and dung for cooking

Collection times:

- 6 hrs/wk dung
- 5 hrs/wk wood
- 20 hrs/wk total

Background: Scope

- Cookstove project goal
  - 100,000 cookstoves
    - Variety of high efficiency biomass stoves: StoveTec, Envirofit, Berkeley-Darfur Stove to replace 3-stone
  - AMS.II.G Methodology
- Development focus
  - funds to be reinvested in community
- Partners
  - World Vision Australia with private investor
  - World Vision Ethiopia
  - University of California Berkeley
  - Lawrence Berkeley National Lab

Background: Status

- Just completed kitchen performance test with StoveTec
  - 18% energy reduction compared to 3-stone
  - Estimate that 80% of biomass is NRB
  - ~1.1 ton CERs available per cookstove per yr
  - 110,000 carbon credits per year
- Testing and modification of Berkeley-Darfur Stove underway

Lessons Learned

- Efficiency Testing:
  - CDM stove methodology influences efficiency testing protocols
    - WBT not a culturally relevant measure
    - Need standardized cooking protocols for each country
- Methodology:
  - Kerosene as baseline substitute not accurate
    - Decreases credits compared to NRB substitute
- NRB:
  - In severely deforested areas dung widely used but hard to prove non-renewable, reducing CERs.
- Potentially large black carbon emissions reductions

Lessons Learned (cont.)

- Technology and cost:
  - Scale up and CDM require mass manufacturing and high quality
  - In most rural areas, biomass is free or cheap, so cost must be low - subsidized with carbon credits
- Monitoring:
  - Testing Stove Use Monitors (SUMs) as reliable improvement to household surveys
- Partnerships:
  - Capacity building for NGOs
  - Partnership between university, NGO, and private sector spurs energy efficient innovation for the poor

Thank you!