P E R A C O D

Promotion of Renewable Energy, Rural Electrification and Domestic Fuel Supply

ASSESSING fNRB FOR COOKSTOVE PROGRAMME IN SENEGAL

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29 september 2009

Sous la tutelle technique de la
Direction de l'Energie
Exécuté par la
gtz

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En cooperation avec
Ministère de l'environnement et de la protection de la nature Direction des eaux et forêts
ASER AGENCE SENEGALAISE D'ELECTRIFICATION RURALE

IMPROVED STOVES CDM PROJECT IN SENEGAL

In Senegal, fire wood and charcoal contribute

to ~ 45% of the final national energy consumption and

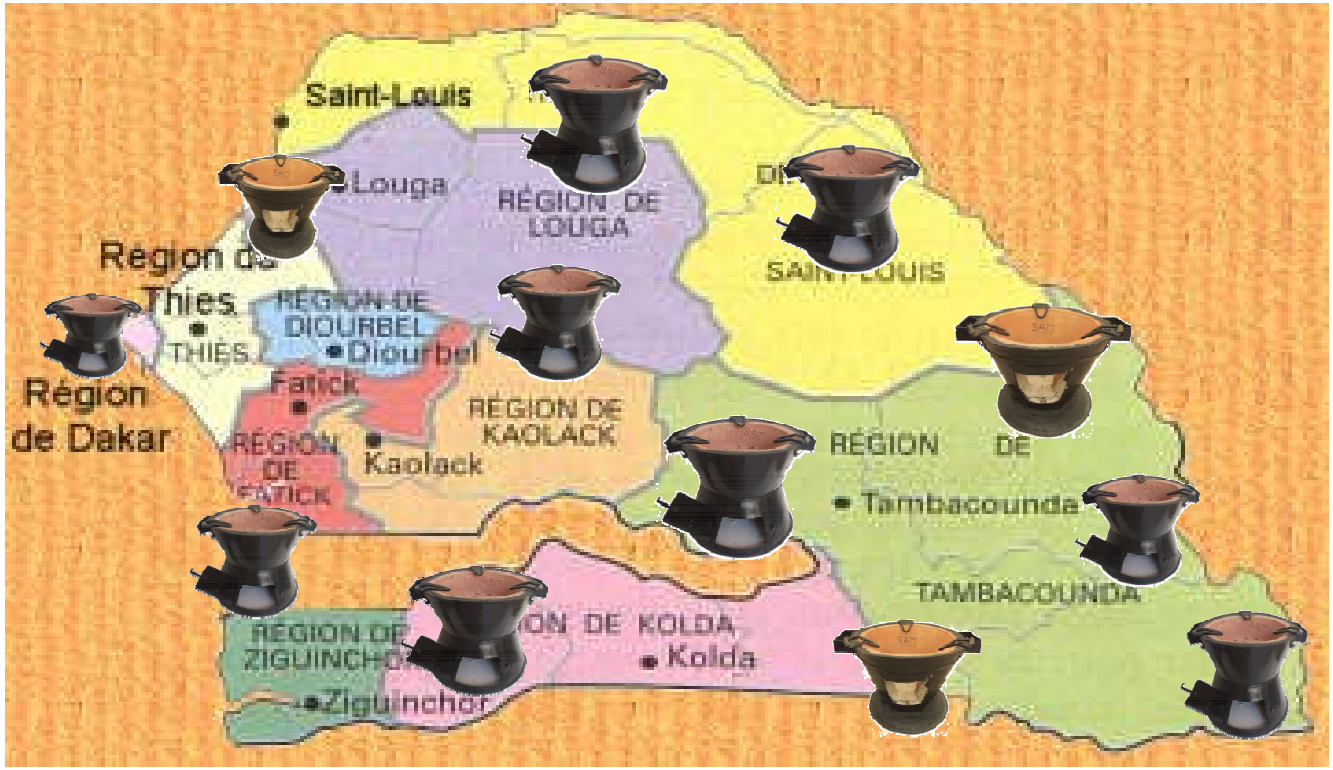
to ~ 84% of the national energy consumption in the household sector

→ strong pressure on national forest ressources

IMPROVED STOVES CDM PROJECT IN SENEGAL

- **Since 2005, PERACOD assists the producers of improved stoves in two areas of Senegal (Dakar and Kaolack)**
- **120 blacksmiths and several pottery cooperatives received training in the production of energy efficient stoves**
- **production output: ~ 2.000 stoves / month (as of spring 2008)**

CDM IMPROVED STOVES PROJECT IN SENEGAL



- **In 2008, we considered to disseminate 50.000 improved stoves/year in urban and rural areas under the framework of a CDM PoA**

THE AMS IIG METHODOLOGY:
The fraction of non-renewable Biomass

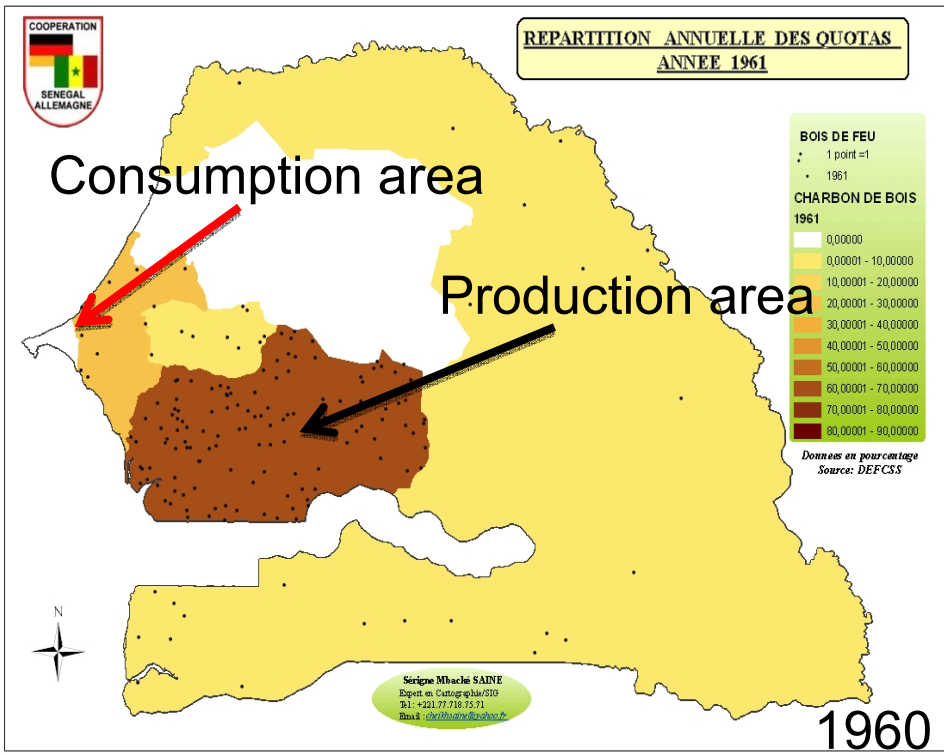
$$ER_y = B_{y,saving} * fNRB_y * NCV_{biomass} * EF_{projected\text{-}fossilfuel}$$

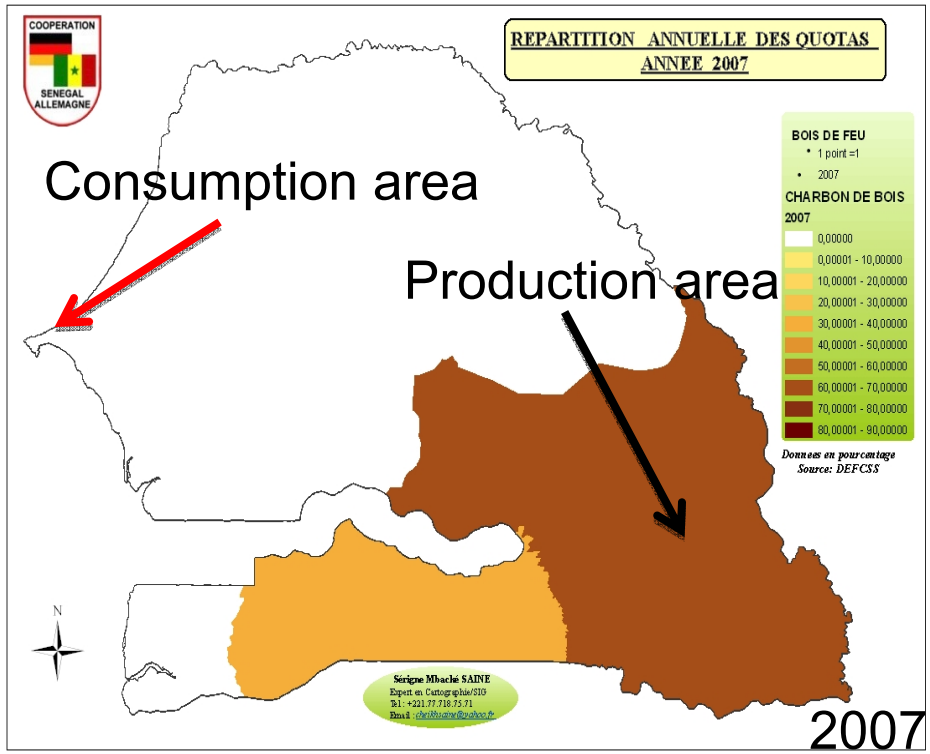
- **The fraction of NRB (fNRB) is one of the most important parameters to determine the CO_2 emission reductions in a cook-stove CDM project**
- **However, the NRB fraction is very difficult to be determined**

THE AMS IIG METHODOLOGY: The Baseline

- **In Senegal, we demonstrated the non-renewability of biomass by the following data:**

Distance from the charcoal production area to the consumption area (1960, 2007) → production area is moving away from consumption area





THE AMS IIG METHODOLOGY:
The fraction of non-renewable Biomass

How to calculate the NRB fraction?

1. **A clear definition of the concepts of renewable biomass (RB) and non-renewable biomass (NRB) is essential in order to calculate their shares in fire-wood and charcoal correctly**

   In Senegal, fire wood and charchoal are considered as NRB if they come from unmanaged forests.

→ **RB** is the biomass coming from managed forests, according to the rules of sustainable forest management in the country

→ **NRB** is the biomass from unmanaged forests

THE AMS IIG METHODOLOGY:
The fraction of non-renewable Biomass

2. Statistical data required:

- **Data on the controlled production of charcoal or wood (published by the National Forest Authority annually)**
- **national population and number of households in the country (to be obtained from surveys)**
- **national consumption of charchoal and fire wood (to be obtained from surveys)**

THE AMS IIG METHODOLOGY:
The fraction of non-renewable Biomass

3. The calculation of the fraction of Non-Renewable Biomass:

$$fNRB_y = (BC_y - CBP_y) / BC_y$$

Where:

$fNRB_y$ = Fraction of Non-Renewable Biomass

BC_y = Annual Biomass Consumption

CBP_y = Controlled annual Biomass Production

THE AMS IIG METHODOLOGY:
The fraction of non-renewable Biomass

Fraction of NRB in Senegal as of 2008:

Controlled charcoal production	Charcoal consumption	fNRB
48 494 t	316 442 t	84,67 %

THANK YOU !