Presentation given the TransLinks workshop:

Modeling and Managing Watersheds

September 13-16, 2011

Kigali, Rwanda
Umubano Hotel, Boulevard de l'umuganda

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Watershed Management Challenges in Rwanda

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Kigali; 13 September 2011

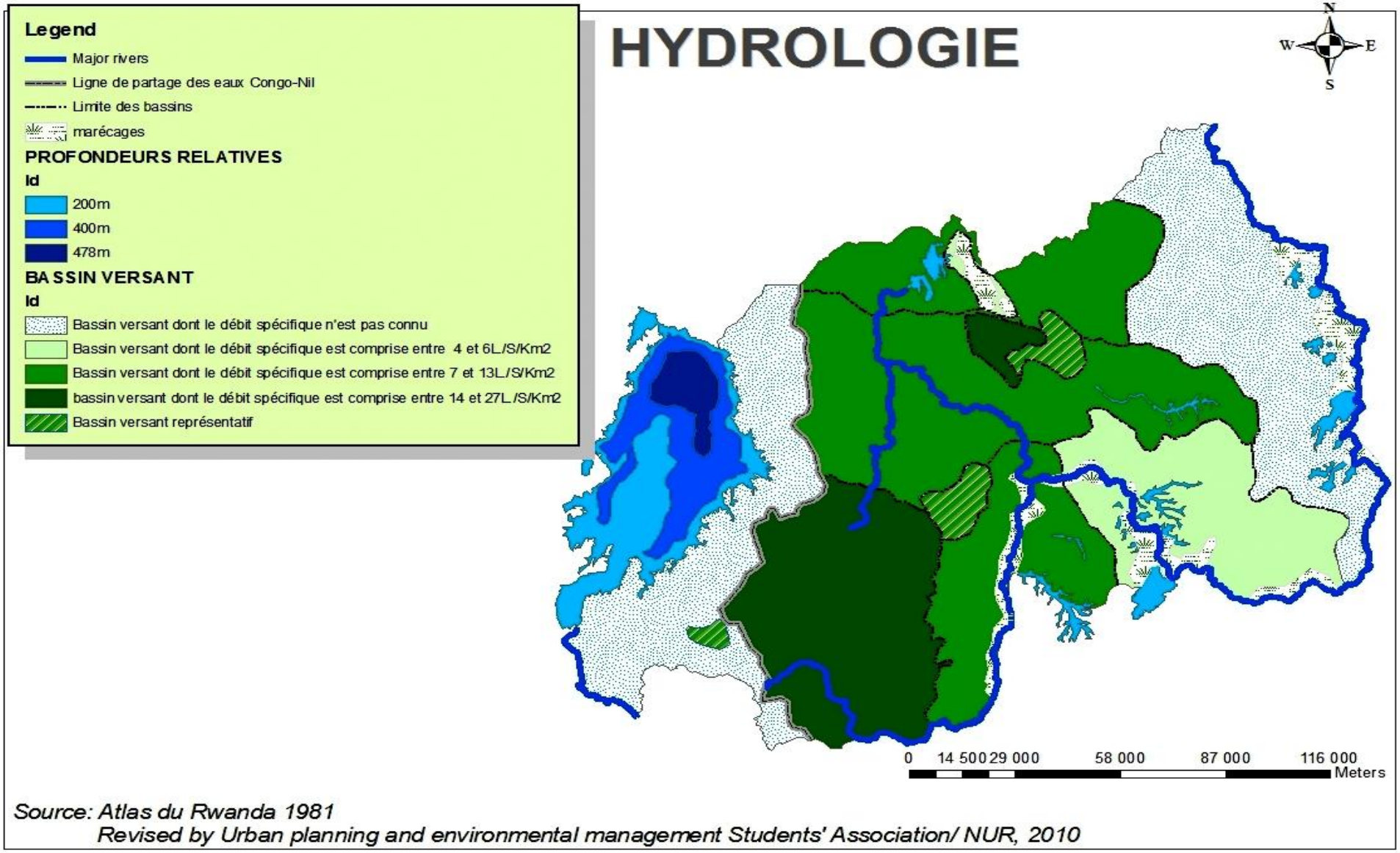
Why WM?

(1)Recognizes linkages between uplands and downstream interests & Cumulative Watershed Effects

(2) Promotes the development of sustainable management solutions to current land and water problems

(3) Facilitates planning of resources & development activities to better cope with an uncertain future of climate and land use

Main Watersheds in Rwanda



Source: Atlas du Rwanda 1981
Revised by Urban planning and environmental management Students' Association/ NUR, 2010

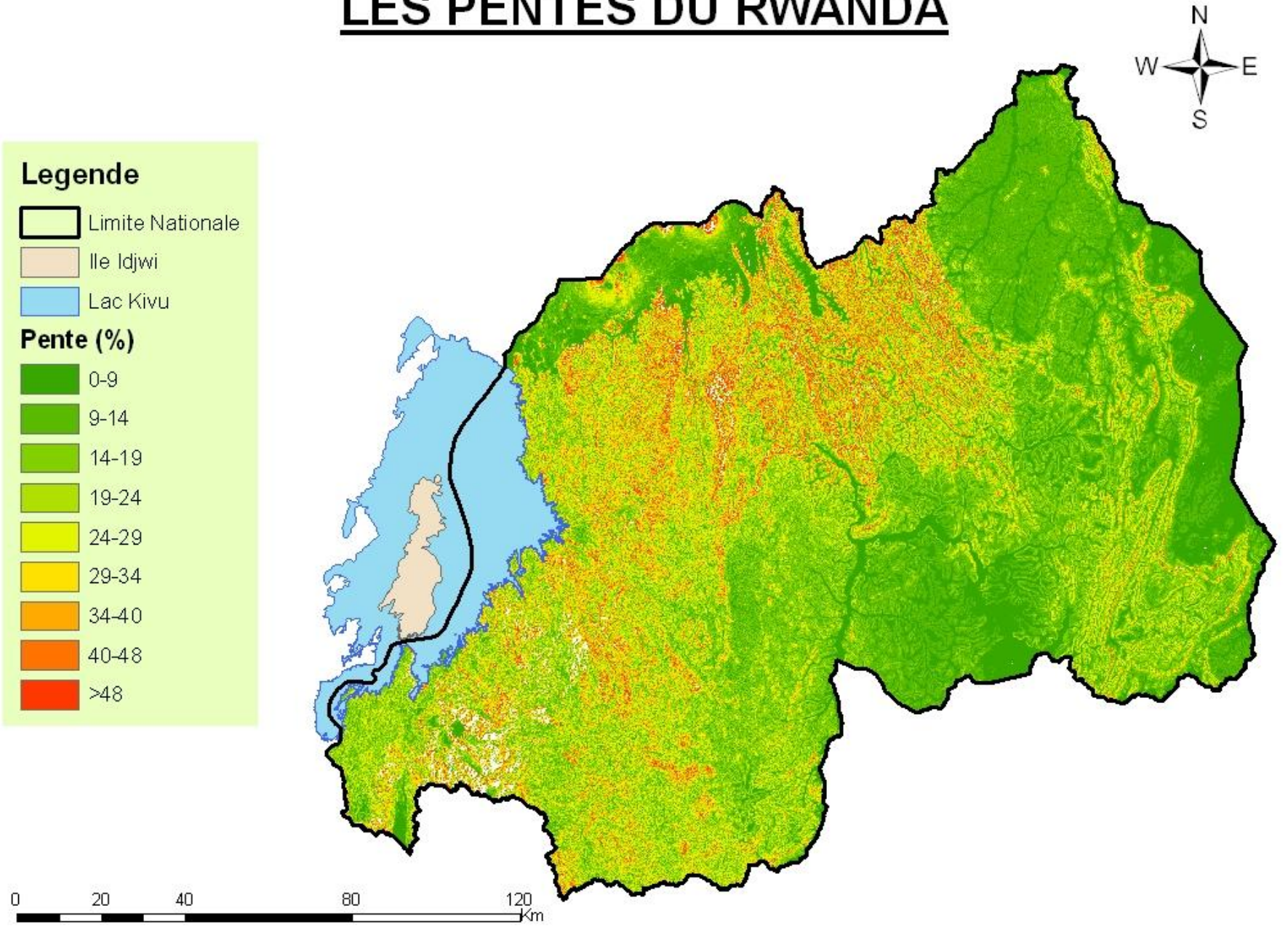
Watershed management challenges 1/3

- The population density is 380 persons km^{-2} , the highest in Sub Saharan Africa
- intensive farming on hill-slopes has degraded the agricultural land
- Soil losses are 20 to 150 t ha y^{-1} on 15 to 50% of the cultivated slopes and these losses are accompanied with declining soil fertility
- Expansion to marginal areas & forests
- Natural resource degradation
- Climate variability and change (→ variable water supplies, temp. increase, extreme weather events (droughts, floods)
- Increasing poverty, and food insecurity

Watershed management challenges 3/3

- Despite the considerable efforts that is undertaken to control soil erosion,
- Adoption of SWC still minimal and loss of fertile topsoil,
- Past efforts in SWC have not been successful,
- Top-down approach neglected socio-economic and biophysical charact.,
- Farmer participation in planning, financial beyond farmers capacity.
- These negative trends in the food production and status of NR suggest efforts integrate conservation and development measures are crucially needed .

LES PENTES DU RWANDA



Energy needs

Success stories

1980's

2004

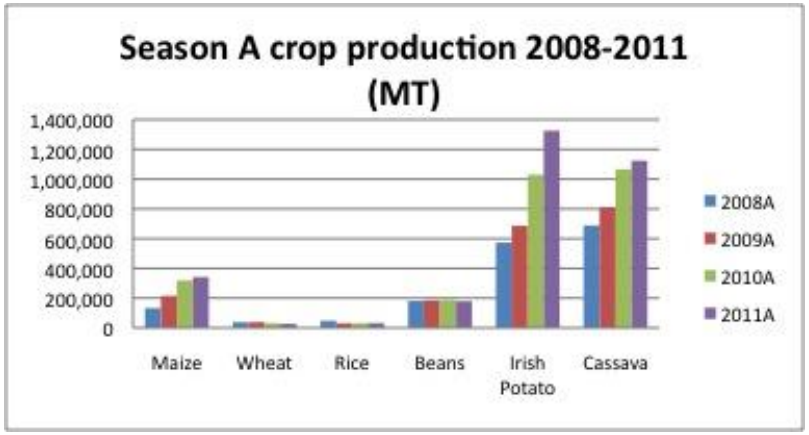
Soil conservation measure

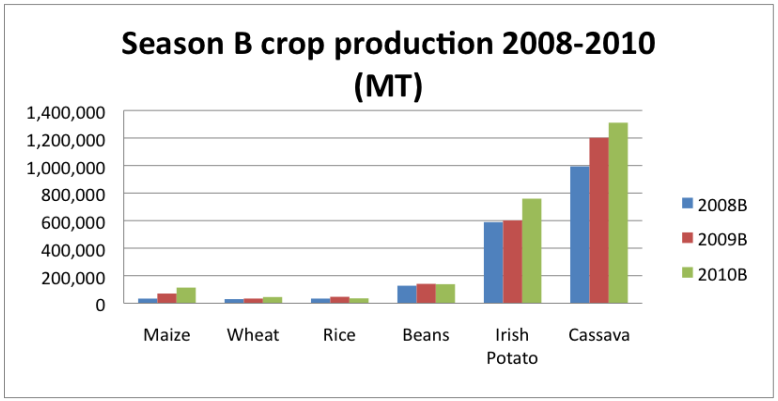
Success stories

Gliricidia trees intercropped with maize

The Crop Intensification Programme

- In august 2007, Rwanda initiated the Crop Intensification Program (CIP) to increase both the level of production and productivity
- Key Pillars for this effort include:
- Land consolidation
- Input access
- Reduction of post harvest losses
- Access to markets
- Today, Rwanda's yield have quadrupled compared to what it was four years ago





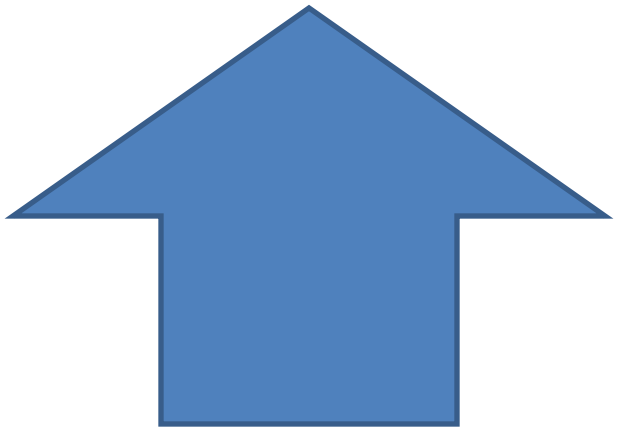
One cow per poor family:

- presidential initiative of 2006 has now reached 125,000 households and it is scored as the fastest and most integrated poverty reducing program.

Fodder from AF trees increases milk production

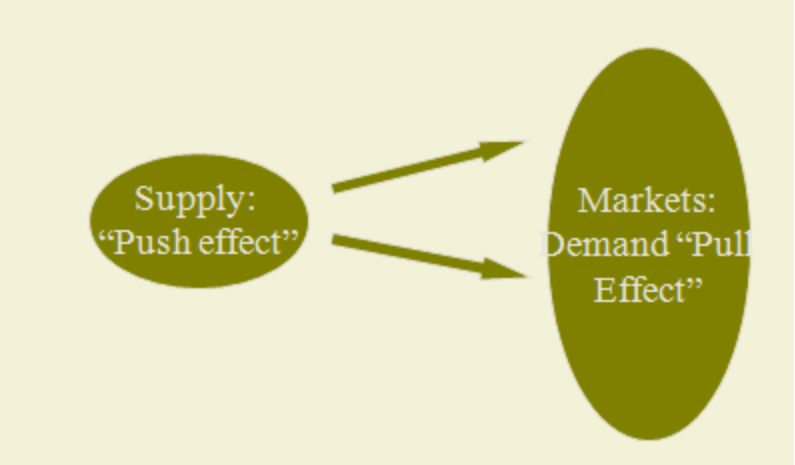
So where do we go from here?

Landscape level impacts



From large scale adoption of Sustainable land management innovations

- Tools / Methods / Approaches for scaling out/up
- Institutional infrastructure
- Value addition / Markets

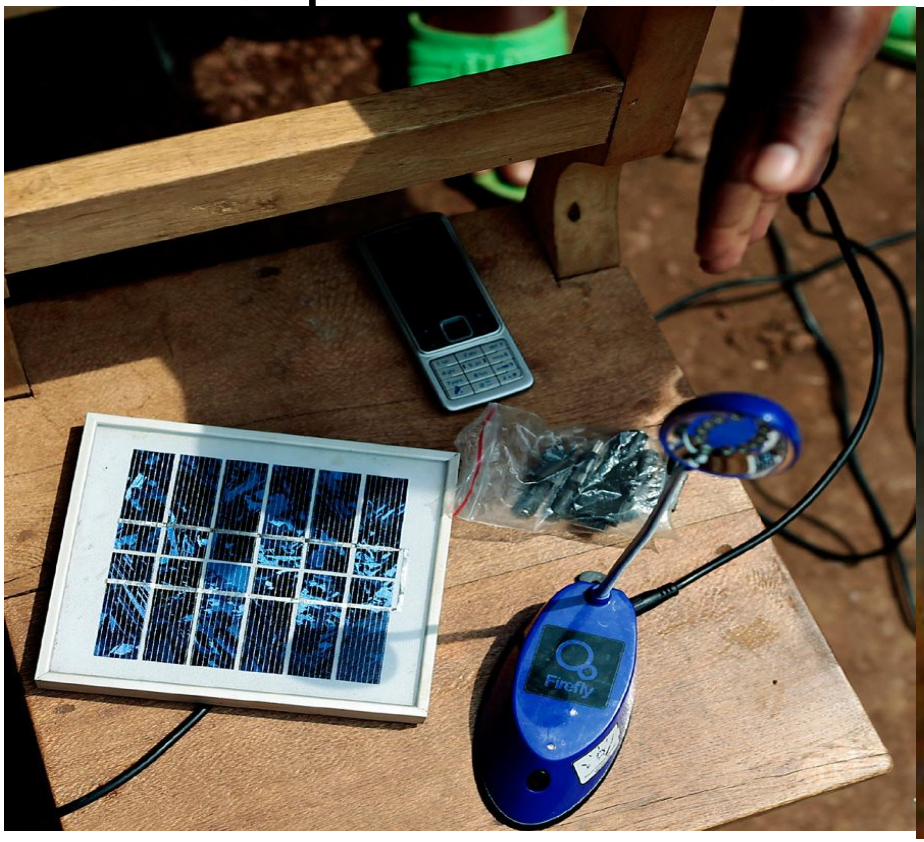


Community mobilization / Landcare approach

World Agroforestry Centre
TRANSFORMING LIVES AND LANDSCAPES

2. Sustainable energy production &Use

Solar panels generate energy to light lamps and charge cell phones: 262 solar lamps distributed in 2010



Biogas use for cooking: 48 model farmers in collaboration with NBDP in 2010

Sustainable energy production &Use

Training on improved charcoal production

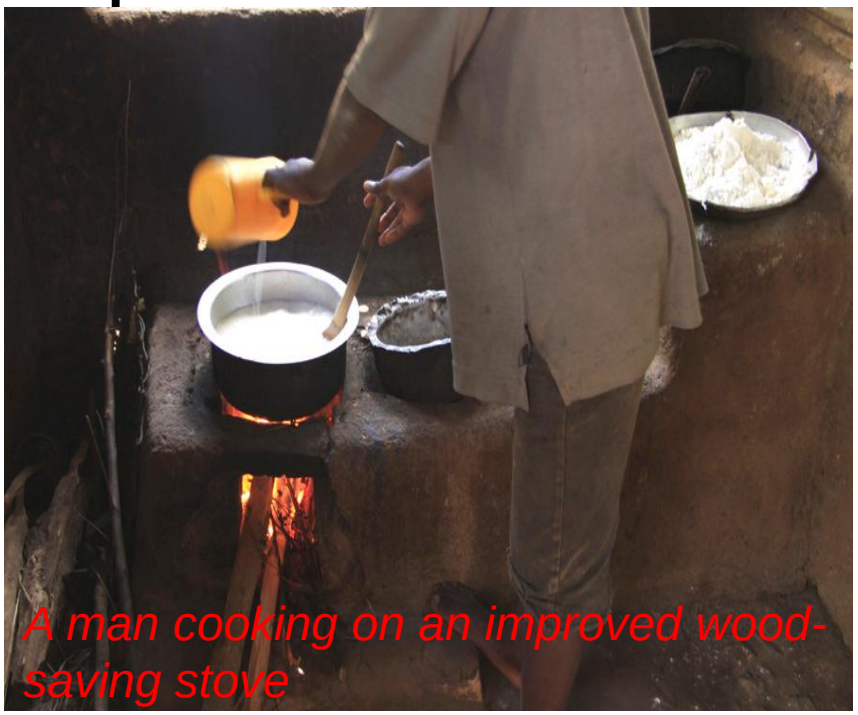
Training on improved charcoal production : 290 charcoal makers in 2010

Sustainable energy production &Use cont’

Cooking on an improved wood-saving stove

- To save energy and at the same time improve the health of the persons cooking food- to change from a three-stone stove to an improved and wood-saving stove. Reeduced the firewood use by half- the project promoted this by constructing **5952 stoves**

Improved stove



A man cooking on an improved wood-saving stove

- Regulations
- Bylaws
- NR Governance
- PES?

Thanks for listening