



PhD programme in climate change Economics

Greenhouse gas emission reduction in agriculture: trade-off or win-win situation for small farmers in the Sudanian area of Burkina Faso?

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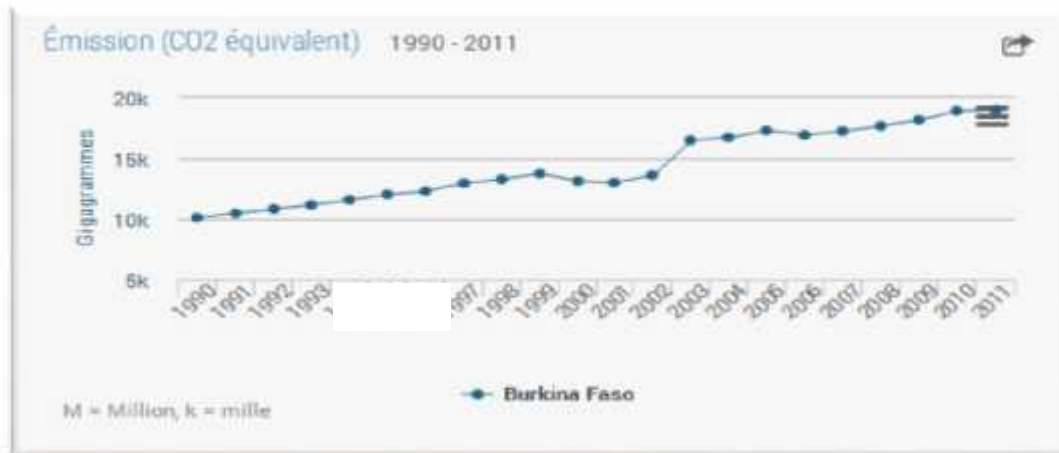
Pr. Joachim von BRAUN

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I. INTRODUCTION

Emission in Burkina Faso:

The trend is increasing from 1990-2011



Burkina: Annex I of Kyoto Protocol

Agriculture and mitigation. storing more carbon in the soil through greener cropping systems

Climate change: Developing countries can take advantage

CDM (Kyoto protocol): inciting farmers to mitigate the GHG balance towards more sequestration and less emission

II. Objective and method

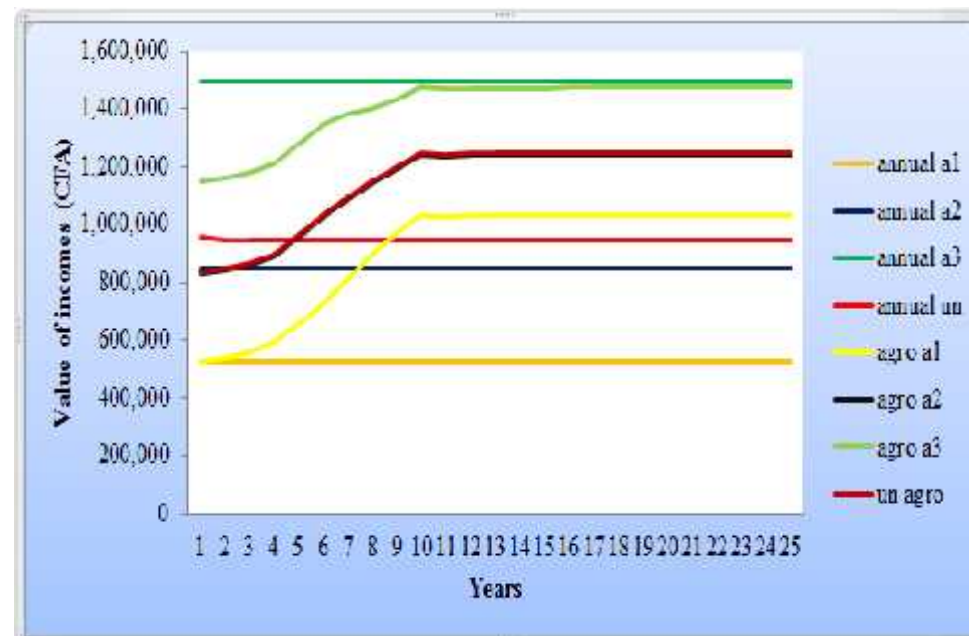
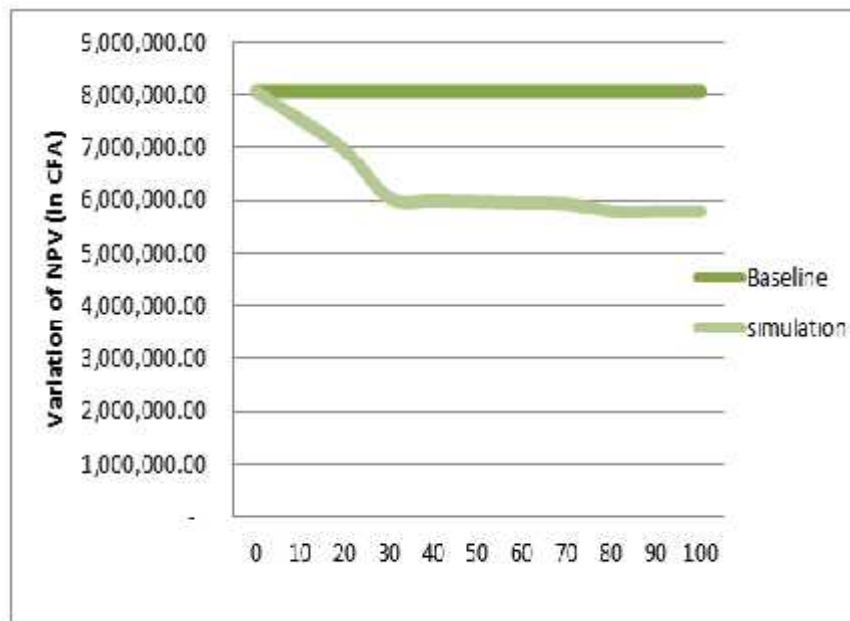
Objective: Analyse the impact of mitigation strategies on small farmers' welfare in the Sudanian area of Burkina Faso

So far very few studies consider the effects of possible incentives to farmers

Method: Using a farm modelling method including crops activities and constraints: Land, labour, capital and food needs

III. RESULTS

, the findings are:



Emission limitations strategy: Farmers' utility from baseline scenario is higher than their utility from emission limitation strategies.

The taxation scenario: Farmers' utility from baseline scenario higher than their utility from taxation scenario.

Integrating perennial crops: Farmers' utility generated by introducing perennial crops is higher than their utility from emission the baseline scenario

IV. Conclusion and recommendations

Emission limitation: trade-off by generating negative impacts

Taxation: trade-off by generating negative impacts

➡ Needs for some incentives to compensate the incomes lost.

Agroforestry: Win-win situation, by improves farmers' utility and storing carbon.

➡ Policymakers must encourage small farmers to adopt agroforestry, or to integrate perennial crops in their annual cropping systems.

COP21 (UNFCCC, 2015): Sustainable agriculture

This study guides decision makers in Burkina Faso to respect the commitment regarding emissions reduction and how to take advantage from mitigation strategies in agricultural sector.

**THANK YOU FOR YOUR
ATTENTION**