



Assessing the Vulnerability of Agriculture to Climate Change in Burkina Faso

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Outline

- Current situation and trends
- Scenario for the future
- conclusions

Current situation and trends (1)

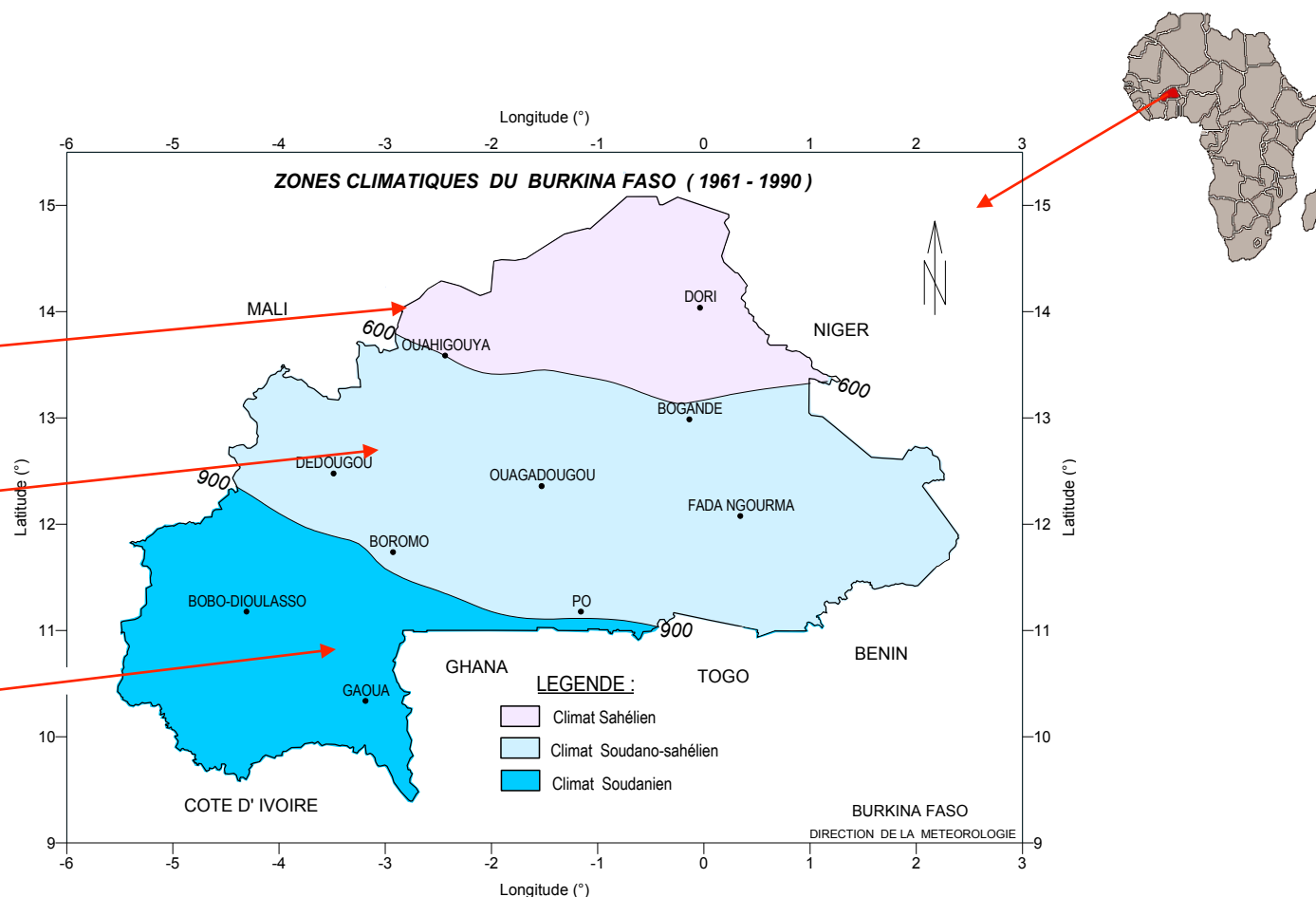
Burkina Faso a
landlocked
country in West
Africa

274 000km²

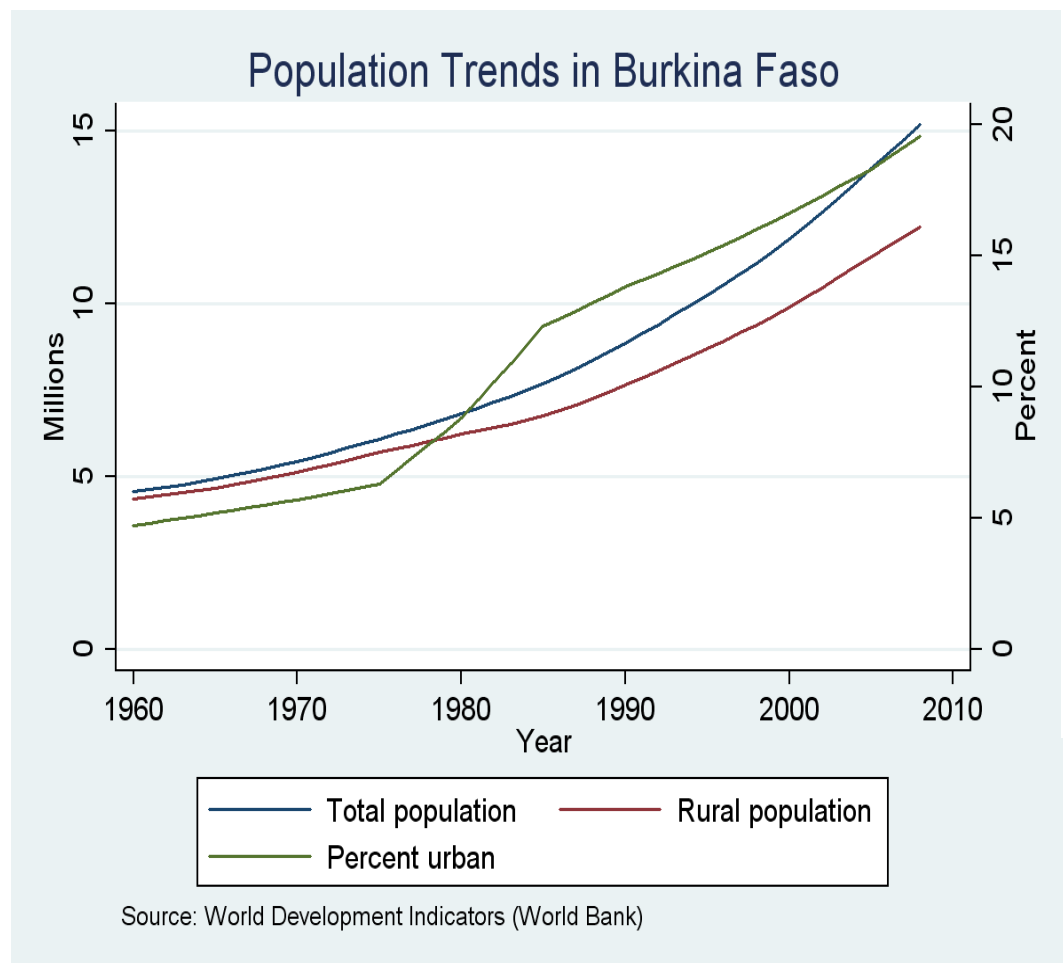
Sahelian zone

Sudan- Sahelian
zone

Sudanian zone



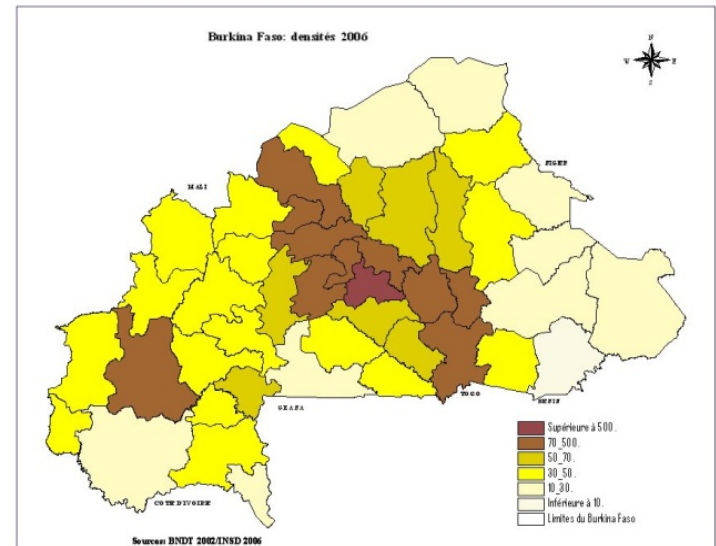
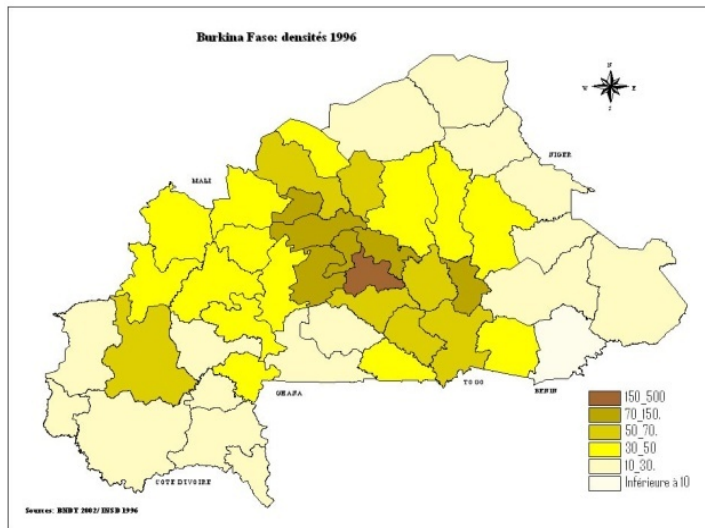
Current situation and trends (2)



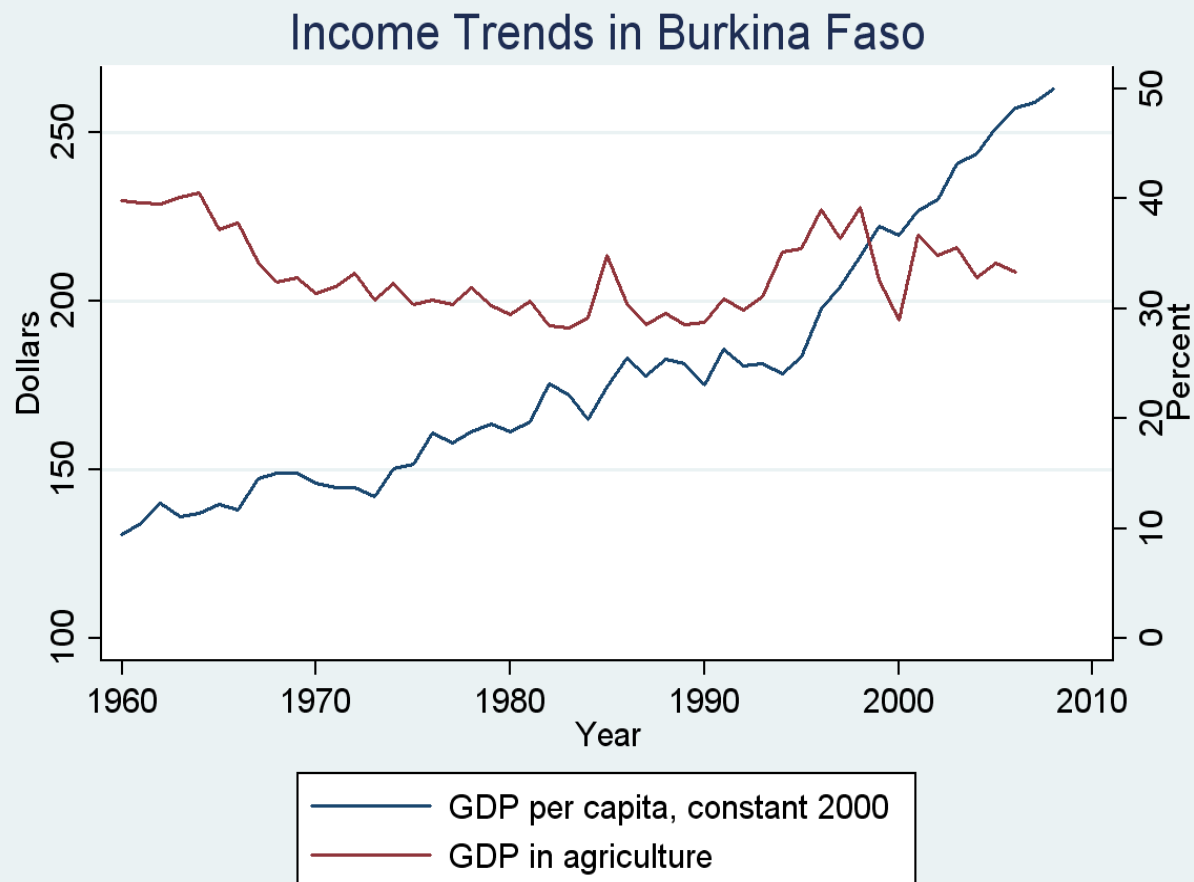
- The total population of Burkina is about 15 millions inhabitants.
- The growth rate which is among the highest rates in the world is 3.1 % between 2000 and 2008.

Current situation and trends (3)

Population density is relatively higher in the provinces along the White Volta river



Current situation and trends (4)

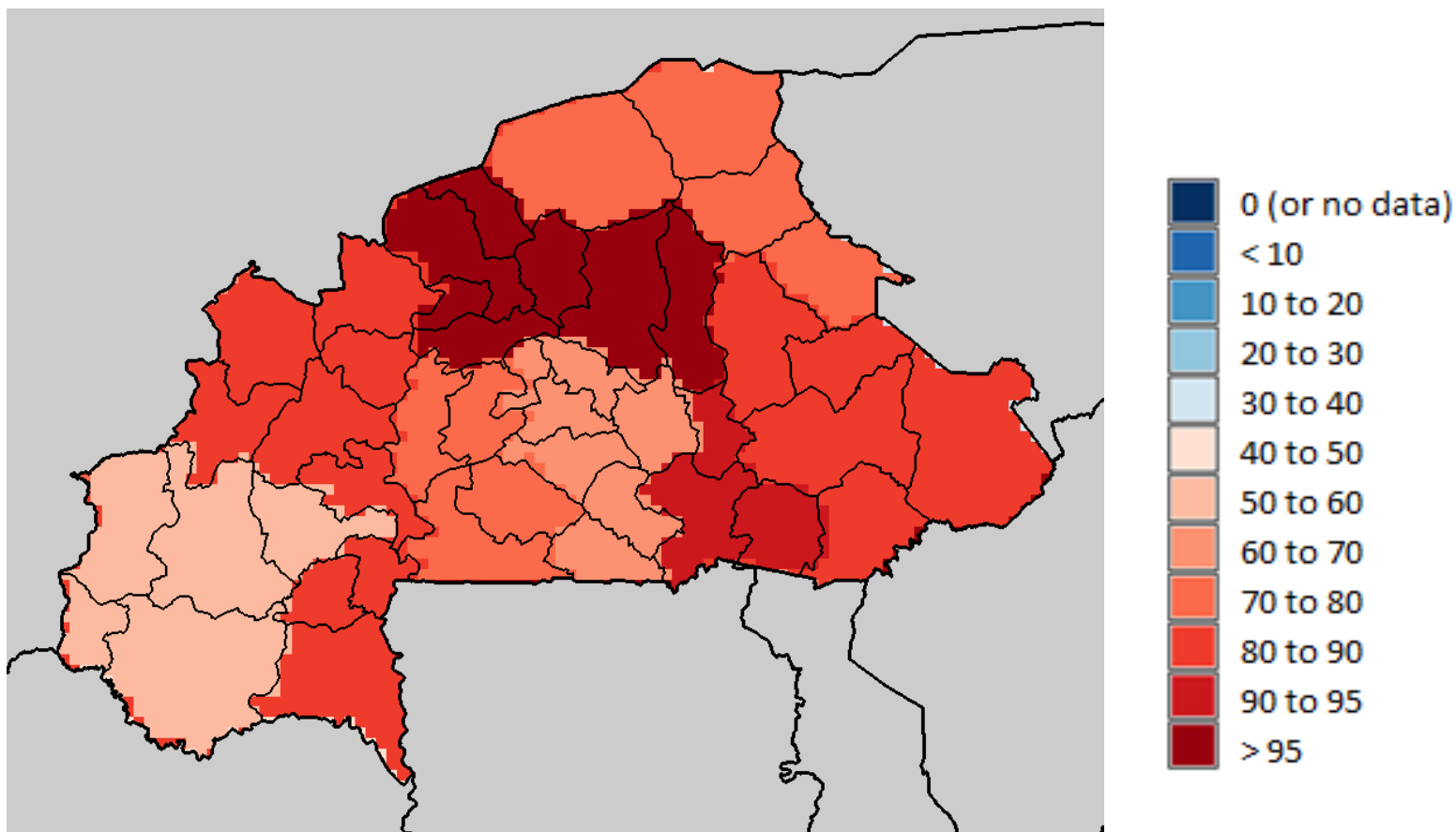


Source: World Development Indicators (World Bank)

Per capita GDP generally increased since 1960. The share of agriculture on GDP has been around 30% to 40%

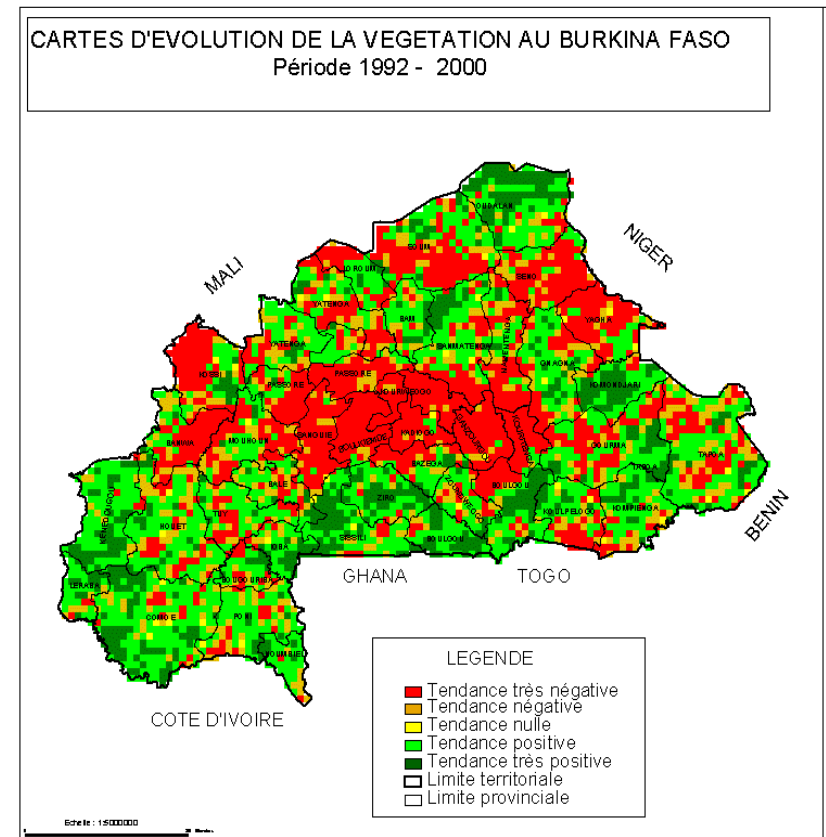
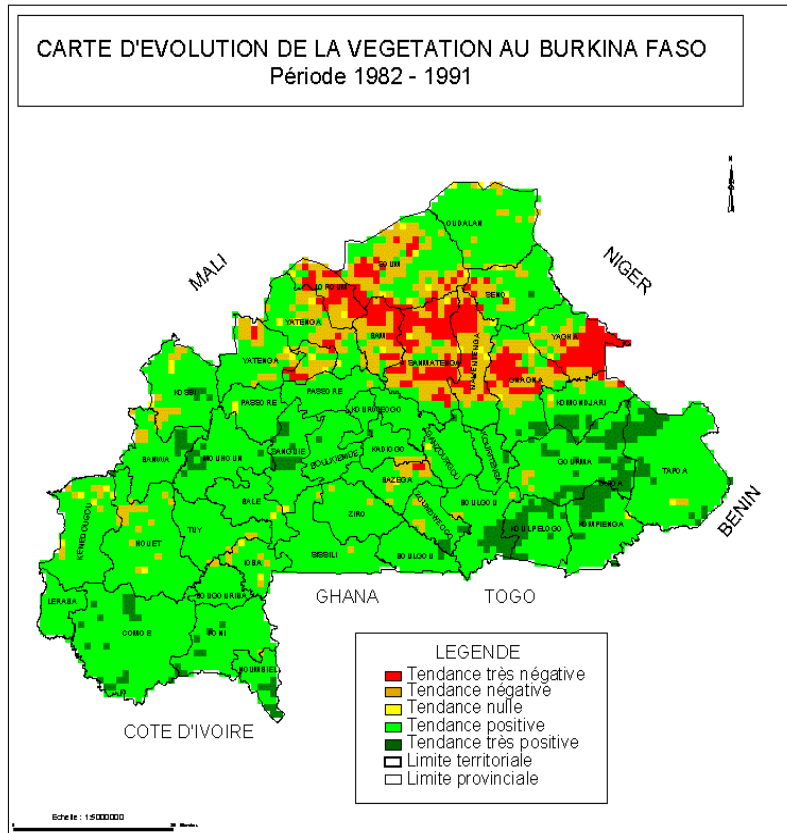
Current situation and trends (5)

Percentage of population living with less than USD 2/day



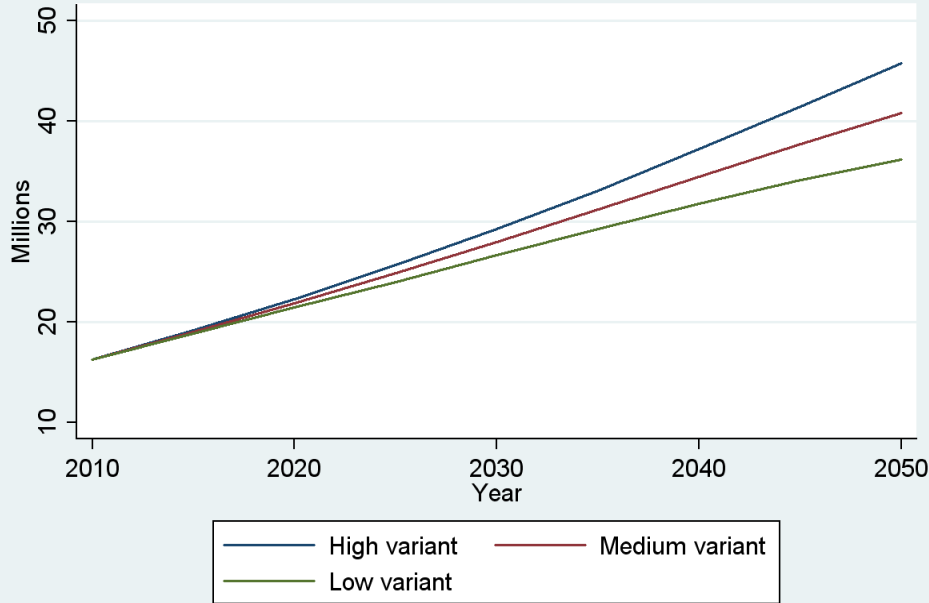
Current situation and trends (6)

Vegetation depletion trends between 2 periods



Scenario for the future (1)

Population Projections in Burkina Faso



Source: UN Population Projections

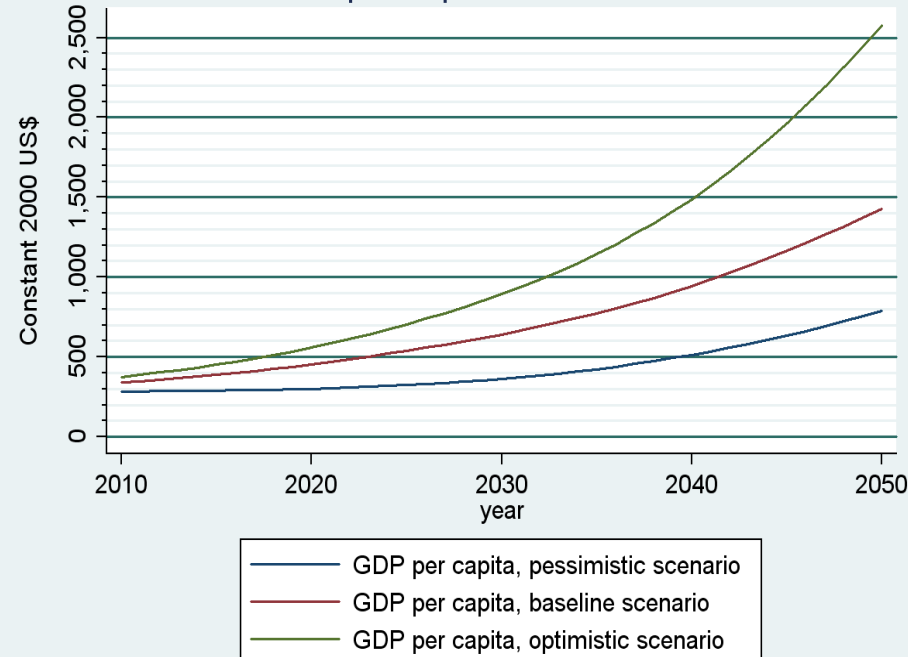
By 2050, the population of Burkina is projected to reach more than 30 millions .

Increasing population will impose a lot of pressure on the natural resource

The pessimistic scenario predicts a rather small improvement in the per capita GDP .

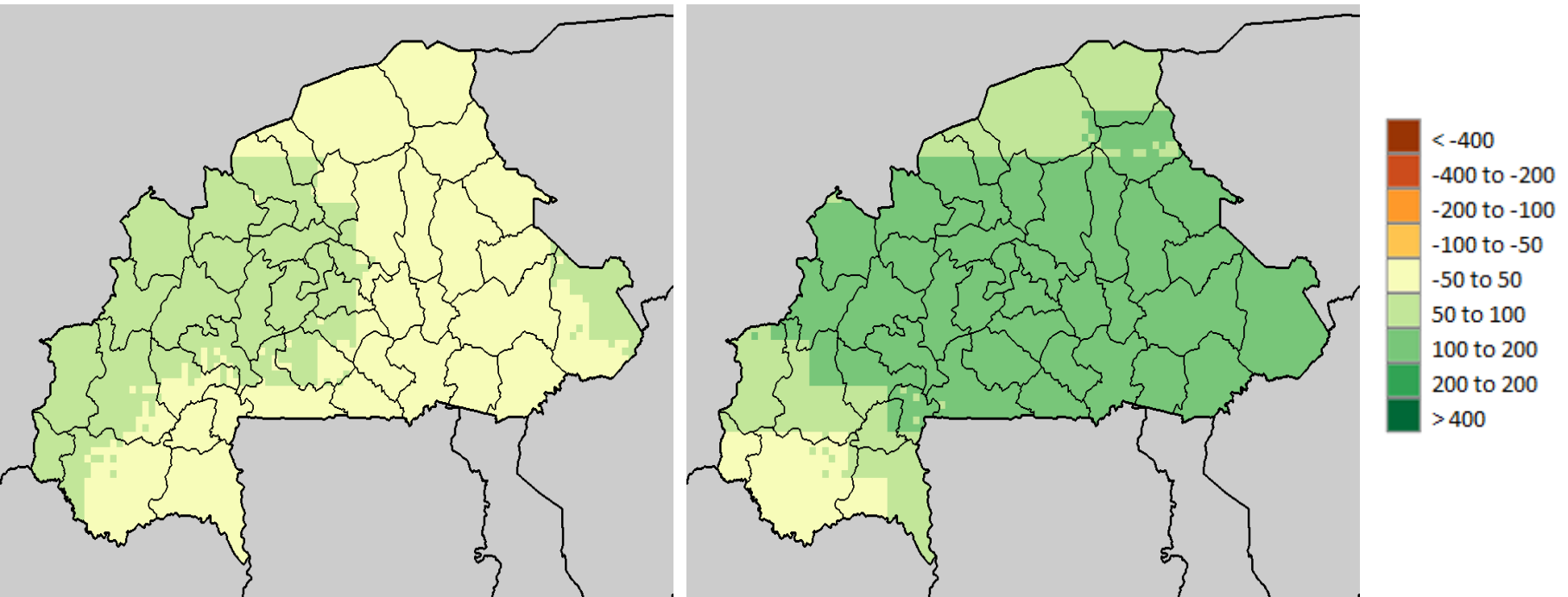
Due to several conditions it is almost impossible to have the optimistic scenario

GDP per capita in Burkina Faso



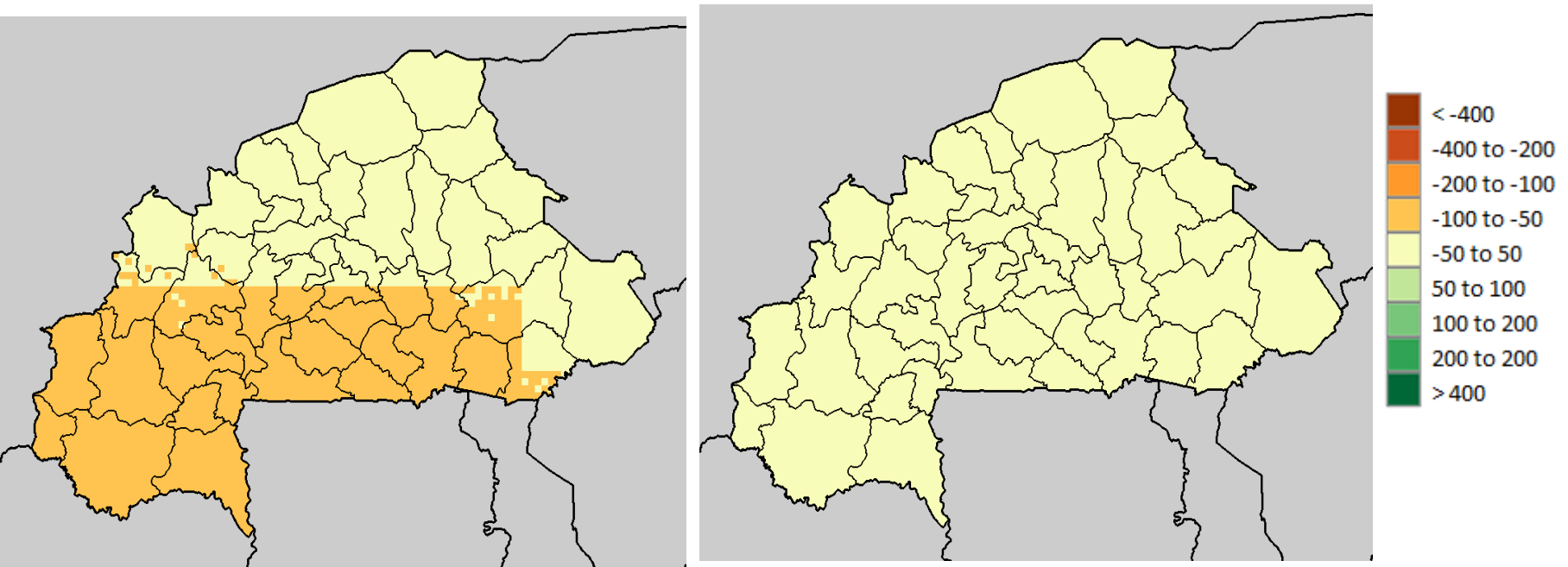
Scenario for the future (2)

➤ For precipitation, the GCMs do not agree on changes. CNRM-CM3 GCM and MIROC3.2 medium resolution GCM predict increase in rainfall in large areas of the country.



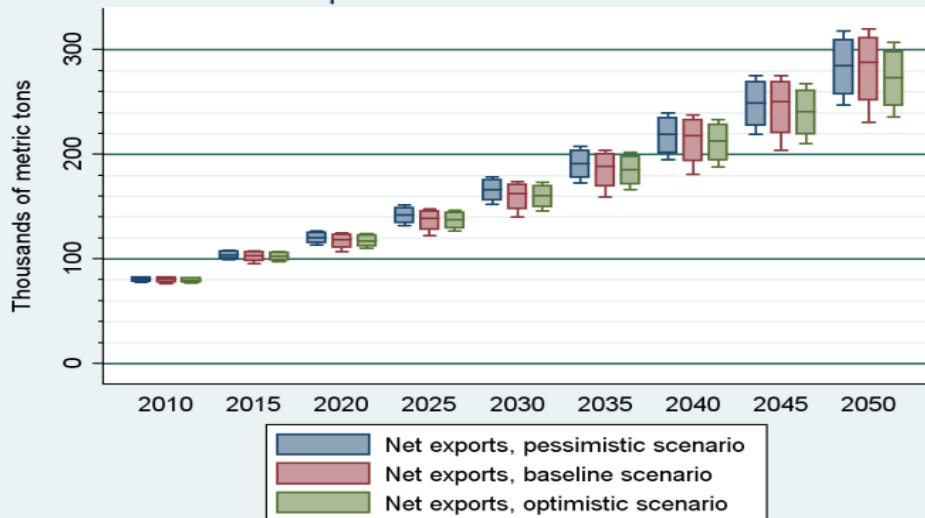
Scenario for the future (3)

- CSIRO-MK3 GCM predicts drier conditions (-200 to -100) in the central and south western part of the country while ECHAM5 GCM shows a uniform -50 to 50 all over the country.
- **All the four GCMs agree on slight to significant change in temperature**

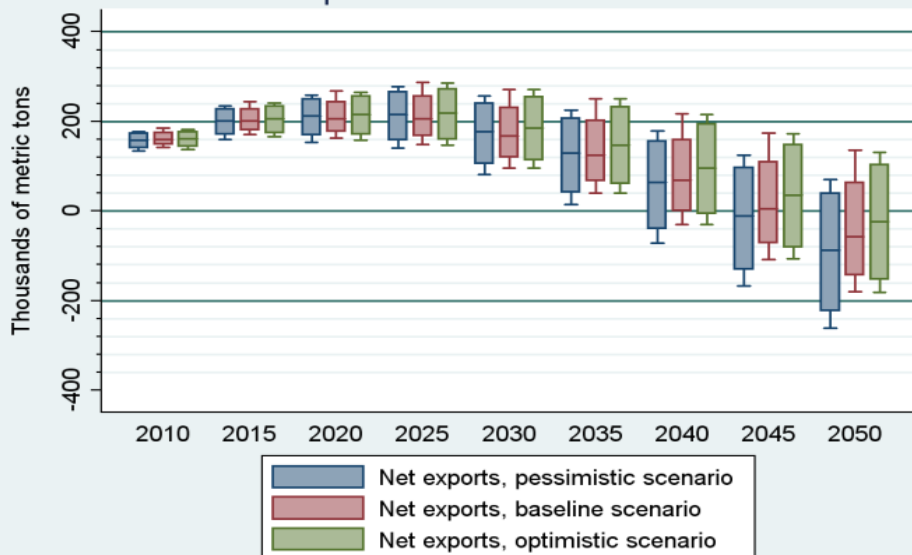


Scenario for the future (4)

Net exports of cotton in Burkina Faso



Net exports of maize in Burkina Faso



By 2050 the net exports of cotton is projected to significantly increase according to the 3 (optimistic, baseline and pessimistic) scenarios. Conversely the net exports of maize will decrease and the country is projected to import it. As the world price of all these commodities will increase, the situation of cotton will benefit the country but the maize will negatively affect the national economy.

Conclusion

- Review of the current vulnerability of the country to CC
- The great uncertainty in rainfall revealed in IPCC 2007 report for all West Africa has been confirmed for Burkina
- In terms of policy implication and recommendations:
 - ✓ Support to the agricultural research system to continue efforts in developing adapted crop varieties
 - ✓ need for capacity building for all stakeholders particularly farmers ;
 - ✓ Control of surface water and groundwater, i.e. the mobilization and distribution;
 - ✓ need to introduce fodder crops into crop rotations in order to improve soil fertility for a sustainable and intensive exploitation



NI BARKA

THANK YOU

