Food securisation in Sub-Saharan Africa

Mini-symposium E
19 august 17h30- 19h
Room 305 C

People, land and food in sub saharan Africa

Michel BENOIT-CATTIN
Bruno DORIN
CIRAD Montpellier FRANCE
The problem

On average, for Sub Saharan Africa:

- Food availability remains the lowest in the world < 2300 kcal/inhab/day
- This availability relies more and more on imports

What are the evidences from the past?
(43 years)

Methodology

- Food/inhabitant = Production/inhab + (M-X)/inhabitant - losses
- Production/inhabitant = Food/Ha x Ha/worker x worker/inhabitant
- Food/worker = Food/Ha x Ha/worker
  Partial productivities as in Ruttan, Bairoch and Malassis
- Food and production and M and X expressed in Kcal/day
- Data = FAO Stat 1961-2003 + Improvements / 38 countries
- Graphical presentation and comparisons between clusters of countries
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- First, Graphical presentation of time series for these ratios for SSA
- Then, comparisons between clusters of countries identified on maps.

The trade dependency

Food/inhabitant = Production/inhab + (M-X)/inhabitant - losses

Graphical presentation with regression lines and data points.
The SSA food challenge

- People
- Land
- Food

Sustained Population growth

\[ y = 217724e^{0.0278x} \]

+2.76%
With more and more people in agriculture

The SSA food challenge

+2.76%

+1.57%

Relatively limiting land

The SSA food challenge
A linear yield increase

The Malthusian SSA food challenge

\[ y = 217724e^{0.0278x} \]

\[ y = 86170e^{0.0187x} \]

\[ R^2 = 0.9249 \]

Weak food performances

Production/inhabitant = Food/Ha x Ha/worker / (inhabitant/worker)
Partial Food productivities

Production/worker = \text{Food/Ha} \times \text{Ha/worker}

Productivity path of SSA

- KCal/Day
- KCal/Ha/Day
- Ha/worker
- Ha/ha

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Comparing with Asia
Productivity paths for SSA and Asia

For the whole Sub Saharan Africa

- Weak food performances
- Limited gains in productivities
- From net exporter to net importer of food (Kcal)
BUT Africa is so diverse

- Small, big and medium countries
- From desert to equatorial forest
- From very low human densities to high
- From hand cultivation to mechanized
- Annual and perennial crops
- Food crops and cash crops

- We will compare countries' performances with the global trends and present clusters of trajectories

A general demographic boom

- For the period, (43 years) with an average rate of 2.8% total population has been multiplied by 3.1
- A group of countries follows this average trend, another is below (x 2.5), another is over (x3.6) and Ivory Coast is unique (x4.8)
More people to be nourished by agr worker

Inhabitants per ag worker


More people to be nourished per

Inhabitants per ag worker

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More people to be nourished per agr worker

Inhabitants per ag worker

Limited per capita Food availability

KCal per head/day
Limited Food availability

Per capita daily food availability

Increasing trade dependency

Trade dependency
Increasing trade dependency

Productivity paths in SSA

- 2500 Kcal/Worker
- 5000 Kcal/Worker
- 10000 Kcal/Worker
- 20000 Kcal/Worker
- 40000 Kcal/Worker
Productivities

Productivity paths in SSA

Productivity paths in SSA with RSA
In summary

In SSA between 1961 and 2003:

- Global decrease of per capita food availability
- Increase of food dependency
- Slight increase of labor productivity
- A decrease of land availability/worker

It was not possible to identify a typical combination of factors across countries explaining this declining trend (contrary to our working hypothesis).

Some implications

As each country is specific

- Ready made policies are very questionable.
- For each country, and even regions inside it, it is important to have a good long period diagnostic.

- Considering demographic perspectives and land limitations, an improvement of agricultural productivities (land and labour) is imperative.
- The challenge is to shift from subsistence to surplus agriculture.