

WEST AFRICA'S SUBSISTENCE FARMING

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West Africa's Subsistence Farming

- **Generalities**
- **West Africa's subsistence farming**
- **Challenges and opportunities**
- **Action plan**

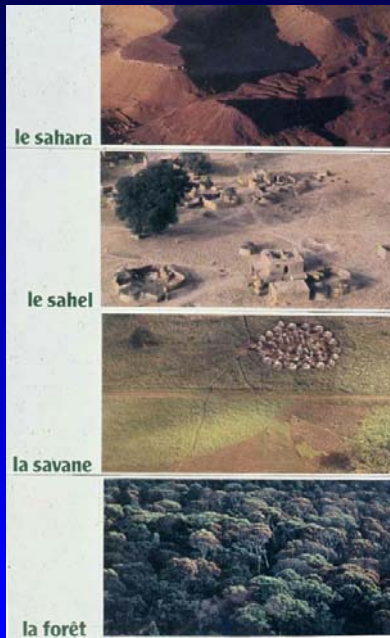
Generalities

- 150 million West African farmers, of which 85 – 90% subsistence farmers
- Extremely poor agricultural resource base, in particular soils
- World's lowest land and labour productivity
- Average cereal yields less than 1000 kg/ha
- Only almost food secure in normal years
- Yield increase 10 kg/ha/yr = $\leq 1\%$; annual production increase 2%
- Population growth 3%; rural population $<3\%$, urban population $>3\%$

West Africa's subsistence farming

- Main agro-ecological zones ***
- Impressions subsistence farming per zone ***
- Dominant production extensive; fertiliser use < 10 kg/ha/yr
- Strengths and weaknesses ***

Agro-ecological zones



Subsistence farming between Sahara and rain forest

Rangelands northern Sahel



**Transhumance, high
animal husbandry
productive**



**Overgrazing and arable farming
undermining transhumance**



Sowing millet in mid Sahel



Crop-livestock integration in the dry savannah



Dry season in the dry savannah



Yam in the humid savannah



Oil palm in forest zone



Rain fed rice in forest zone



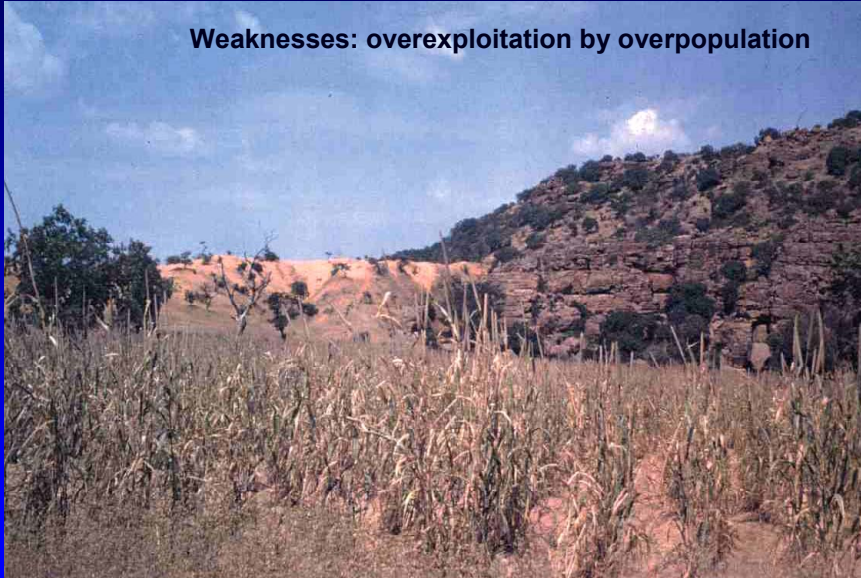
Strengths subsistence farming

- Grafted on clever indigenous systems, e.g.
 - transhumance
 - agroforestry
 - mixed cropping / rhizobia & mycorrhiza
- Independent; “no” external inputs
- Carrying capacity (from dry North Sahel to rain forest in South)
 - pastoral animal husbandry (*not in forest!*) : 1 to 7 hab./km²
 - arable farming (*not in North Sahel*) : 10 to 45
 - agro-pastoral systems : arable farming + 10%



Strength: Acacia Faidherbia park land etc.

Weaknesses: overexploitation by overpopulation



Weaknesses subsistence farming

- **Overexploitation by overpopulation**
 - high in South Sahel, dry savannah and forest/coastal zone
 - limited in North Sahel and humid savannah
- **Limit access to credit, to input and output markets**
- **Unfavourable socio-economic and policy environment**
 - domestic: agricultural policy absent or inadequate
 - protectionism rich part of the world
- **Limited and weak farmers' organisations**

Challenges and opportunities

- **Why the “Green revolution” bypassed Africa? *****
- **Exceptions that prove the rule *****
- **Conditions favouring intensification and market orientation *****
- **West Africa’s opportunities and challenges *****

Why the “Green revolution” bypassed Africa?

- 1. Extreme poor soils combined with harsh climates:**
 - a) low efficiency external inputs;
 - b) overpopulation at low absolute population pressure:
 - *poor transport and distribution systems;*
 - *limited and slowly developing domestic market;*
 - *limited labour opportunities outside agriculture*
- 2. a + b = high prices external inputs, low output prices**
- 3. African’s agricultural paradox; agricultural development inhibited:**
 - a. by overexploitation of the land because of “overpopulation”;
 - b. by poor market development because of “under population

Exceptions that prove the rule

- External inputs are used in North Africa, South-East Africa and in West African cotton belt
- Small holders in South Africa & Zimbabwe use 5 times the average African fertiliser use
- Intensification in regions with access to important markets
- Maize benefits from cotton like small holders from commercial farming
- Irrigated rice far enough from harbours
- Peri-urban agriculture.

Conditions favouring the use of external inputs in sub-Saharan Africa.

1. Agro-ecological environment

- *soils with good storage capacity for nutrients and water*
- favourable climate
- irrigation systems;

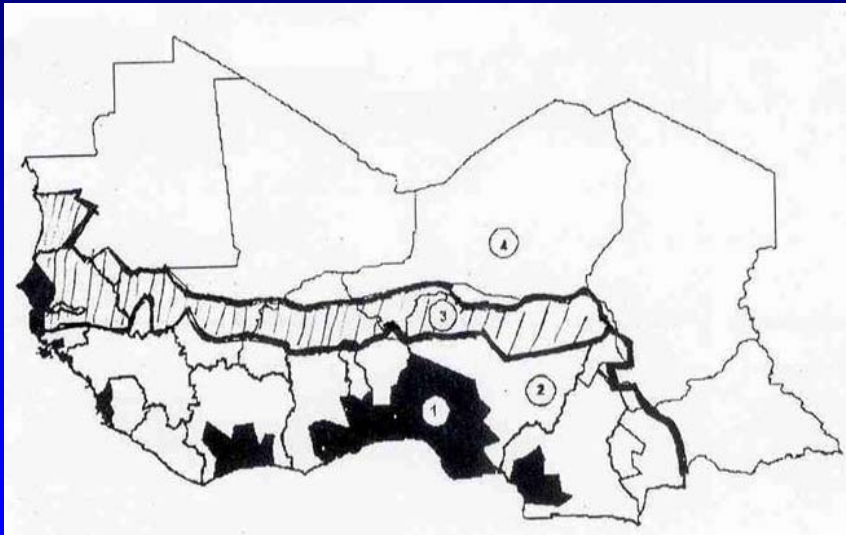
2. Socio-economic and policy environment

- peace and stability (condition sine qua non)
- *access to domestic, regional or international markets*
- high population density and growth
- good transport and distribution systems
- enabling policy environment for private initiatives
- favourable input & output prices

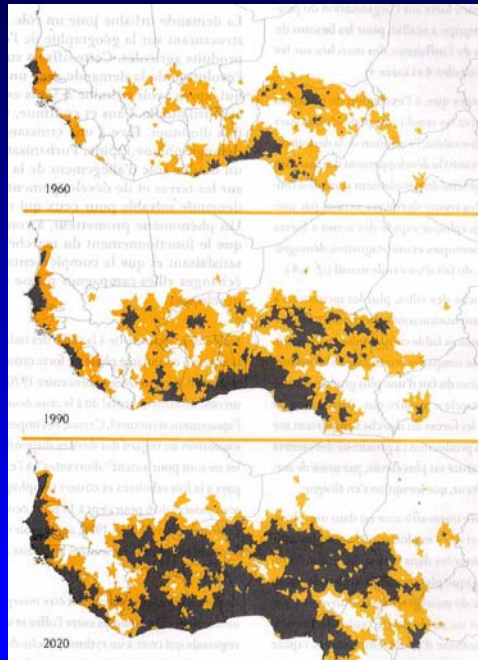
The major agricultural zones of West Africa

- **Demography *****
- **Market opportunities *****
- **Agricultural development opportunities *****

1. Coastal growth poles
2. Coastal hinterland
3. Sahelian growth poles
4. Sahelian fringes



**Growing market attractiveness;
1960 – 1990 - 2020**



The major agricultural zones of West Africa

zones	products	attractiveness ¹⁾ external inputs	potential ²⁾
Coast	export crops and quality food for urban population	I – II	+++ - ++
Dry savannah	non-perishable crops and livestock for domestic, regional and international market; quality food for urban population	I – II	+++ - ++
Humit savannah	non-perishable export crops); cereals, legumes and root crops for the coastal zone and the regional market	II	++
Sahel	cereals, legumes and animal proteins for local consumption; niche production for domestic market ⁴⁾	III	(+) ³⁾

¹⁾ I to III = decreasing attractiveness; ²⁾ + to +++ = increasing potential; ³⁾ only niches with potential

Expected annual agricultural market growth in Africa (Hazell, 2003)

- Domestic markets (\$ 6 billion/yr)
- Traditional export markets (\$ 0.4 billion/yr)
- Non-traditional export markets (\$ 0.36 billion/yr)
- Regional markets come on the last place (\$ 0.06 billion/yr) **

** multiple trade barriers limit the size and potential for expansion

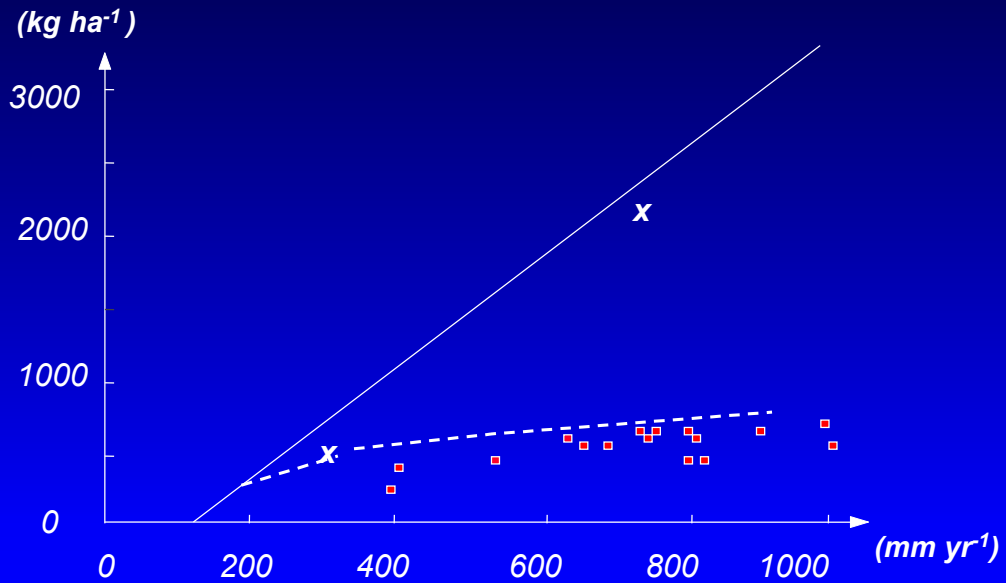
Actions to be taken for more remunerative more sustainable agriculture (1)

Farmers

- improving their organisations: representative and strong
- invest in land: integrated soil fertility management

Private sector

- creating & reinforcing associations
- invest in input and output market development
- exploit strategic site selection



Integrated soil fertility management a must

Inorganic fertilizers

- > low efficiency
- > unfavorable cost:benefit ratio
- > limited availability & accessibility

Organic resources

- > limited availability
- > low quality
- > overexploited

Integrated soil fertility management a must

Input use efficiency, the Sahelian example

- N recovery can double; 60 instead of 30%
- Water use efficiency can increase from 10 – 15% to 50%
- Combined with favourable socio-economic conditions, this can increase cereal yield from 0.5 – 1 t/ha to 2.5 – 5 t/ha



Strategic site: emerging input market

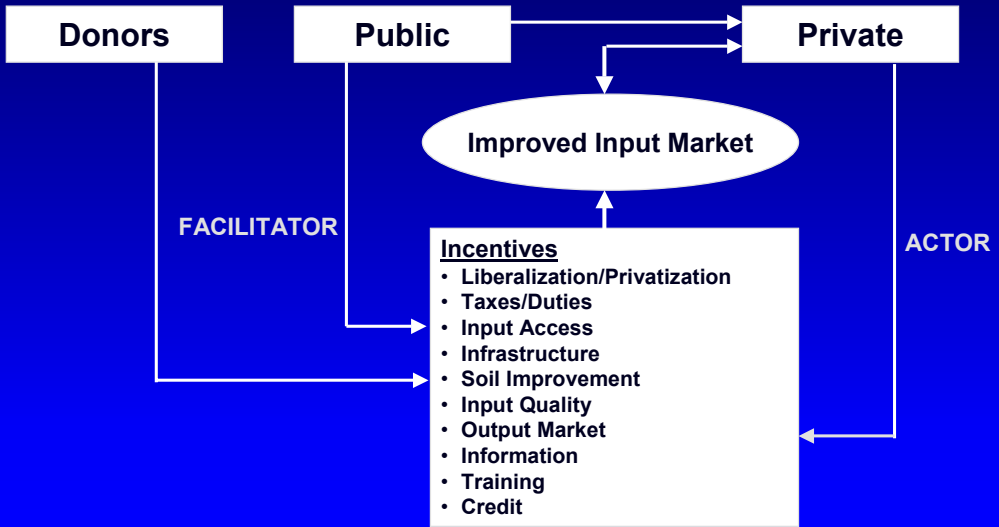


Actions to be taken for more remunerative more sustainable agriculture (2)

Public sector

- **facilitator instead of actor**
- **favouring producers over consumers**
- **enabling environment for land improvement and private markets**
- **integrated soil fertility management investment projects**
- **market information systems**
- **regional cooperation and integration**
- **minimising risks for small holders and marginal land**

Public and Private Sector in Creating Favorable Environment for Input Marketing





Thank you for your attention.

