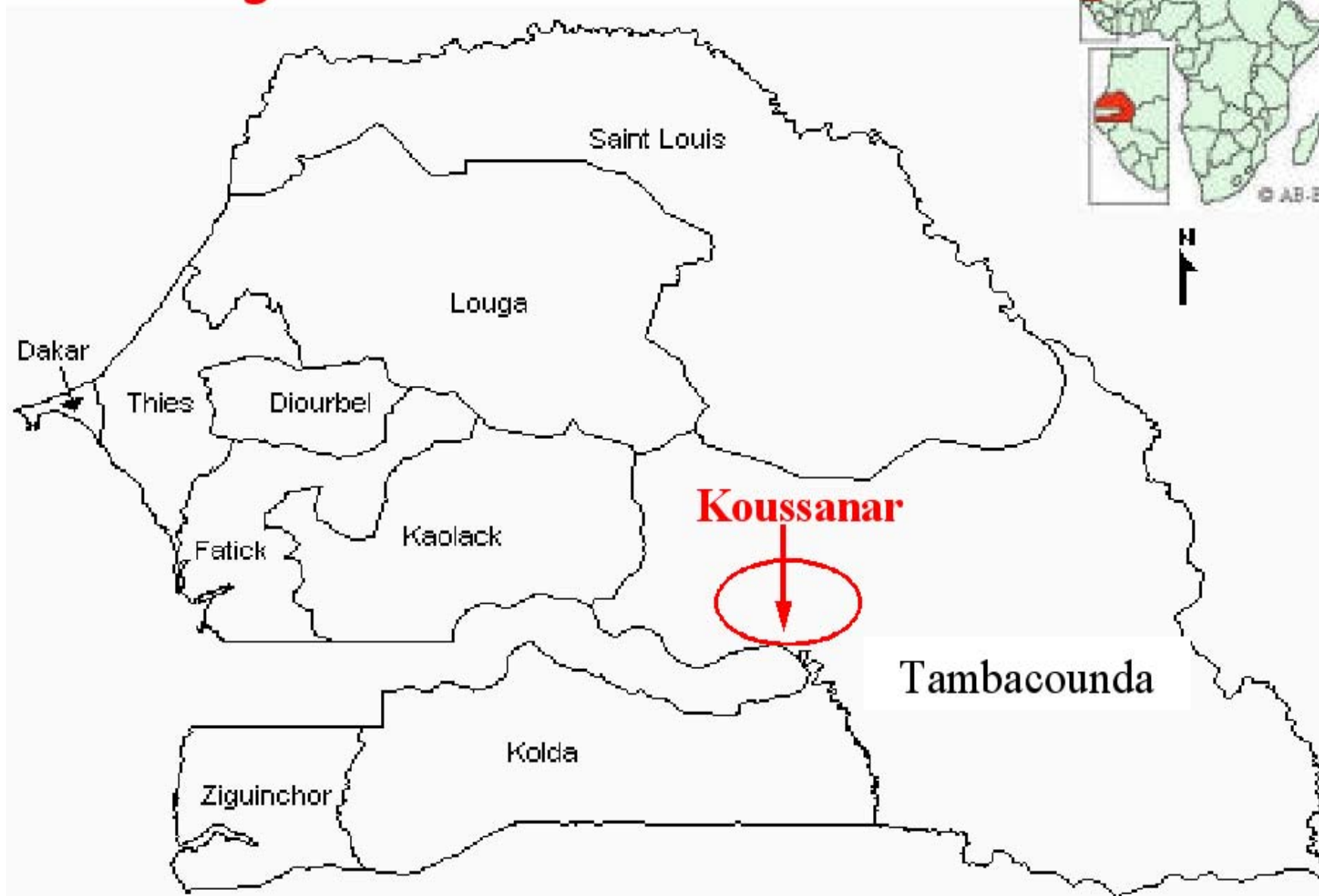




Diversifying sources of farmer income and transformation of cotton growing zones in eastern Senegal

Case example of the Federation Yakaar Niani Wulli accompanied by Enda Pronat

Le Sénégal



Echelle de la Carte: 1 cm = 50 km

Source: Project AP3A - Centre Régional AGRHYMET

© FAO/SMIAR

2000

Starting objectives

- To prove the technical feasibility of organic cotton production as an alternative to agrochemicals ;
- To contribute to improving income of-farm household enterprises ;
- To put in place a solid organisation of farmers .

History



- 1994 : 1st trials of organic cotton production
- 1997 : birth of the Yakaar Niani Wulli Federation and gain 1st organic certification
- 1998 : trials in producing quality peanut
- 2001 : 1st activities in processing organic cotton
- 2003 : 1st activities in processing fonio
- 2004 : introduction of sesame into the organic crop rotation
- 2005 : gain association statutes for YNW Federation and 1st organic + fair trade certification for fonio
- 2006 : achieving 1st certification for fair trade cotton
- 2007 : 1st extraction of organic sesame oil and introduction of high quality red bissap
- 2008 : 1st textile collection YNW

Promoting safe and sustainable agriculture

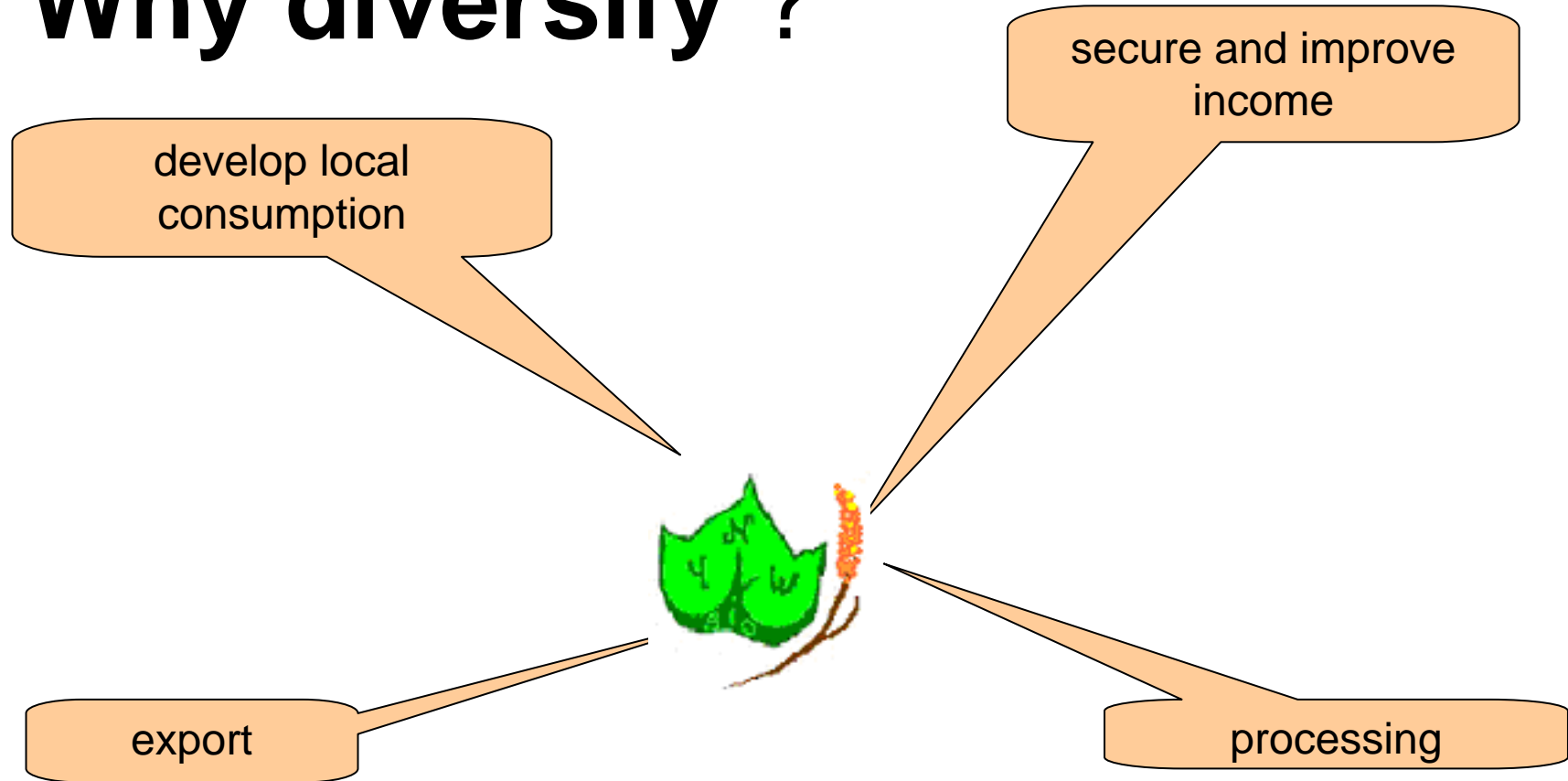
- Strengthening organisational and decision making capacities of the Federation YNW
- Improving food security
- Developing and promoting an alternative farming system based on natural products
- Improving income sources through farming diversification and product processing

Strategies and methods



- Awareness-raising
- Experimentation
- Capacity strengthening
- Participatory Action Research & Training:
village approach;
farmer field schools;
workshops with policy makers and
scientists

Why diversify ?



Trends in organic and fair trade certified production *

COTTON	Surface (ha)	No. of Farmers	Produce traded (kg)	Value (F CFA)
<i>2004-2005</i>	15,75	39	4 338	845 910
<i>2005-2006</i>	57,75	174	17 883	4 275 105
<i>2006-2007*</i>	188,5	531	63 258	19 341 342
<i>2007-2008*</i>	290	650	85 000	26 010 000
FONIO				
<i>2004-2005*</i>	22,5	85	8 193	1 433 775
<i>2005-2006*</i>	6,25	251	8 346	1 460 550
<i>2006-2007</i>	37	204	5 306	950 080
<i>2007-2008</i>	49,75	220	6 000	En cours
SESAME				
<i>2005-2006</i>	12,75	53	230	40 250
<i>2006-2007</i>	37,5	127	2 886	505 050
<i>2007-2008</i>	72,5	121	7 786	2 450 000

Rainfed agriculture, livestock and gathering wild foods

Rotation crops of organic cotton: millet, sorghum, maize, peanut, sesame

Secondary crops: cowpea, fonio, rice

Opportunities

800 mm rain per year

availability of land and animal traction

mixed cropping

rotation-fallowing

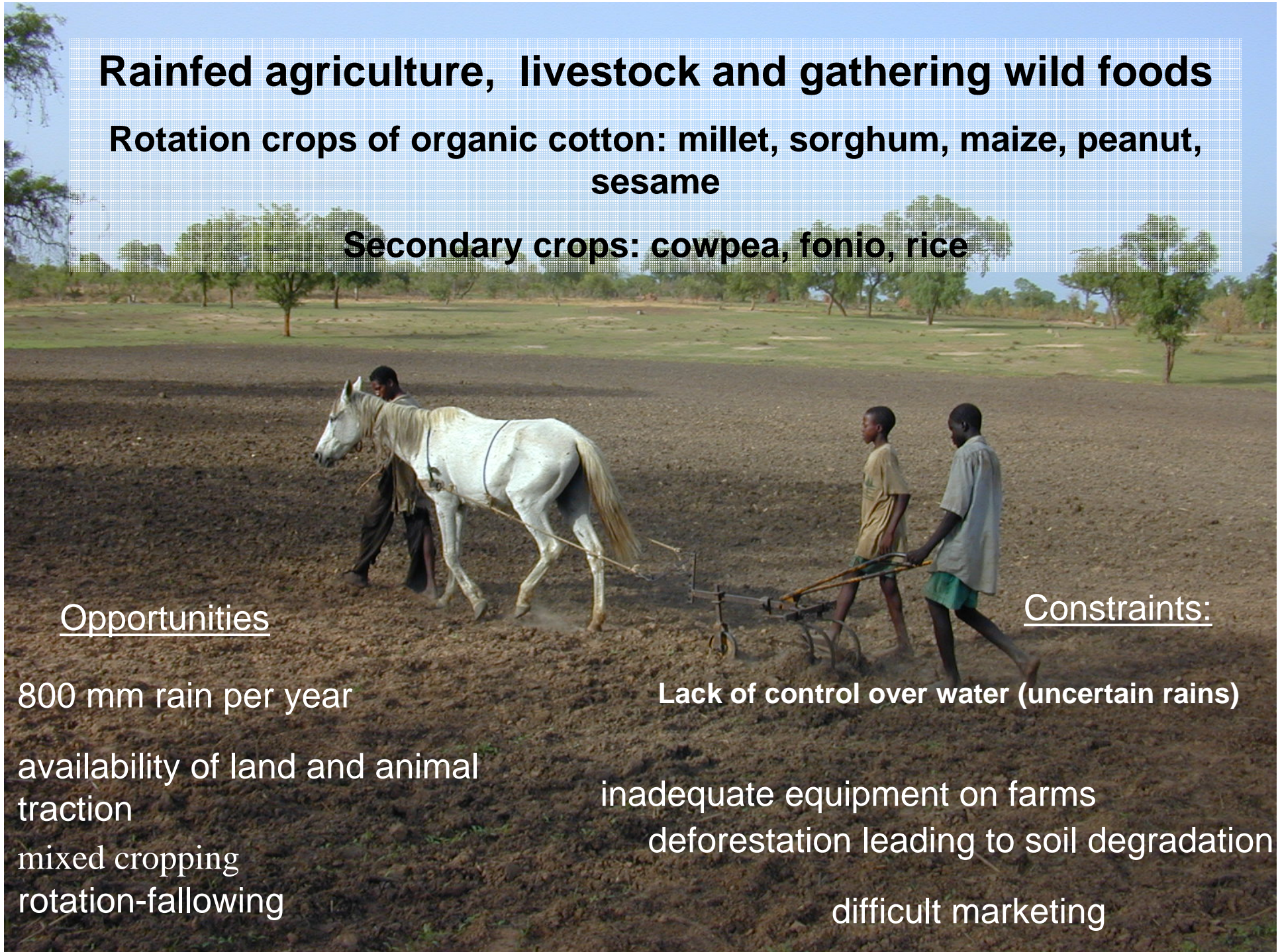
Constraints:

Lack of control over water (uncertain rains)

inadequate equipment on farms

deforestation leading to soil degradation

difficult marketing



Choice of crops

Previous decisions and today:

- Household food requirements
- Ecological conditions in the environment and agronomical consequences
- Financial needs and capacities for pre-financing
- Availability of agricultural equipment
- Availability of family labour (and of land in certain localities)

A family farm of 10 people

- 0.75 ha small millet
- 1 ha sorghum
- 0.25 ha peanut for household consumption
- 0.25 ha peanut for sale
- 0.25 ha maize
- 0.25 ha organic and « fair trade » certified cotton
- 3 ha under fallow

Examples of crop rotations

In general, a cycle of 4 years cropping with 2-3 or more years under fallow :

- **Peanut- 2 years of cereals ('Souna' millet- Sorghum- Maize- fonio)-cotton- fallow**
- **Cotton-2 years cereals- peanut**
- **With sesame: peanut- sesame- millet (or millet- sesame) -cotton-fallow**
- **With fonio but without cotton: peanut- fonio- Maize- Sorghum- fallow (or fonio in the last stage)**
- **With fonio: peanuts- fonio- Sorghum/Maize- cotton- fallow**

Restrictions on choice

- Cost of certifications
- Costs of monitoring and internal control system

Consequences:

restriction of cropping zones to cotton, fonio, sesame and bissap and disintegration of the rotation system

Goal :

Gain profitability through better equipment and yields

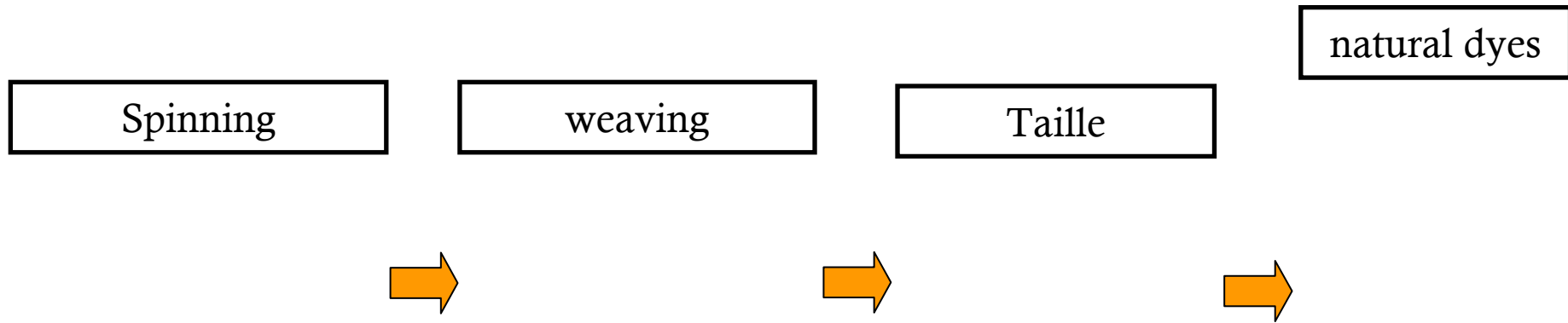
Problems in the cotton supply chain

- No influence in markets :lack of controls on price, seeds and supply chain actors for organic/fair trade (certification, ginning, spinning, distribution)
- **Consequences** :
 - unfair distribution of profits ,
 - Delays in payment ,
 - Dependence on subsidy ,
 - Farmer benefits reduced and difficulties in renewing agricultural materials
 - Stagnation in yields and difficulties in growth for farm plans and in general

Profitability of organic/fair trade cotton

Per hectare	F Cfa	euros
32kg Seeds	6 400	10
Knapsack sprayer	2 000	3
Labour	12 000	18
Picking labour	20 000	30
Organic certification (subsidy)	4 000	6
Fair trade certification (subsidy)	5 000	8
Monitoring (subsidy)	26 667	41
total expenses	76 067	116
Income from harvest (350 kg/ha x 250F/kg)*	87 500	133
Income from harvest (800 kg/ha x 250F/kg)**	200 000	305
Profits per year per farmer *	11 433	17
Profits per year per farmer with subsidy *	47 100	72
Profits per year per farmer **	123 933	189
Profits per year per farmer with subsidy **	159 600	243

Local processing of cotton



Fonio supply chain

- Local adapted crop grown by women for ceremonial use
- Main constraint: extremely demanding in terms of labour requirements for harvest and processing
- Small acreages (0.1 ha on average)
- Low yields (100-500 kg/ha)
- Difficulties in collecting large volumes: importance of pre-finance at the moment of harvesting (producers' need for money!!!)
- Competition with other countries : Mali, Guinea Conakry

Marketing of fonio

In 2006 harvest of around 15 ton of Ecocert-certified organic and fair trade fonio was exported by the enterprise Gaia Bio Solidaire France after having been processed (de-husking and pre-cooking)

Unhappy with this commercial partnership which they consider 'unfair', Federation farmers preferred to set up their own processing unit

Sales experience through network of shops in Dakar at too low price did not enable decent distribution of benefits to the women growing and processing fonio

Fonio processing 2007

Item	kg	nb months	unit price (F Cfa/U)	Total cost (F Cfa)
Purchase from farmers	6 000		180	1 080 000
Organic certification (subsidy)	6 000		100	600 000
Monitoring (subsidy)			2 animateurs/1 moto	800 000
Transport to processing unit	6 000		20	120 000
Fuel wood		2	8 500	17 000
Water		2	20 000	40 000
Electricity		2	35 000	70 000
Salary 6 processing women		2	45 000	90 000
Salary for 1 driver		3	45 000	135 000
Packaging	3 300		40	132 000
Transport to Dakar	3 300		40	132 000
Maintenance of dehusking machine			forfait	100 000
Interest on credit 11% (6 months)				220 000
Total expenses				3 536 000
Gross income	3 300		1 000	3 300 000
Net income				-236 000

Supply chain for sesame

- An undemanding crop which fits well into the cotton rotation
- Medium level acreages and yields (380 kg/ha) comparable to those of cotton
- An export market exists without the need for certification, with an extremely good price around 300 F/kg
- Local extraction of oil for local consumption, market opportunity for cosmetic products
- Constraints

National market: not much eaten locally, quality of oil is unstable, competition export prices compete with development of local processing

Export markets: exclusive contracts, lack of control over prices and origin of seed for export production

Other products

Bissap (red petals of hibiscus) :

- Orders for 5t from juice processing plant through a pilot project for fair trading in Senegal
- Pre-financing of quality seeds and monitoring/training by the processing plant and Pronat
- A relatively easy crop and well-known, grown along the edge of cotton fields

Peanut :

- Well known and integrated, opportunities in national markets for eating peanuts, peanut oil and peanut butter

Fair trade?

Critique of organic/fair trade certification under the European approach

- Heavier burden on farmers than on other downstream actors in the chain (compliance demands, control and costs)
- Little transparency at the level of European exporters, manufacturers and processors

Process for developing guarantee systems for organic and or fair trade produce in Senegal since 2006: :

- platform for value criteria (ethical, economic, social, environmental), national charter for fair trade, generic protocols
- Set-up of 4 pilot product lines

Developing the local organic-fair trade market

Good market reward for these products requires:

- Organisation of quality production
- Adequate infrastructure for storing, processing and preservation (quality, hygiene)
- Packaging and distribution locations should reinforce visibility
- Good understanding among the actors in the chain on procedures and methods which guarantee transparency for the benefit of farmers and processors



Medium-term support from the YNW
Federation to strengthen capacities at commercial level₂₃

For or against exports?

- Regarding food security and negative impacts on local market supply: sesame is the least problematic, followed by be SAP, cotton, peanut. Fonio is questionable. Millet, sorghum, rice and maize are not really appropriate (production at national level is insufficient, programme of cereal banks)
- Export of primary materials could compromise the development of local supply chains (processing, distribution, transport etc) which could create high added value and jobs through finished products
- Export of processed products with high added value: sesame and cotton oils for cosmetic use and cosmetic products, textiles at handicraft or semi industrial levels

Conclusions (1)

In order for family farms to benefit from opportunities in national and international market outlets and to improve their living standards significantly in a safe and sustainable way, we underline:

Improving farmers' and processors' technical capacity through an adequate system of financing (productivity, quality, diversification)

- Development and promotion of finished products
- Real sharing of profits along the supply chain and avoiding pointless intermediaries

Conclusions (2)

Export earnings should enable:

- necessary investment to facilitate sustainable development of organic family farming and processing units of the Yakaar Niani Wulli Federation
- allowing farm families to choose between developing the right combinations of food crops for domestic consumption and for sale and professionalising their cash crops, according to their own aspirations, but without putting in danger supply to national cereal markets