

## Project for creating a school for sustainable development in Africa

By Benjamin LISAN on 19/06/2013

### Challenges for Africa in the twenty-first century

The biggest challenges in XXI century for Africa are:

- 1) Ensuring food security of Africans in the long term.
- 2) The preservation of the environment,
- 3) Global warming.

Africans are faced with a difficult equation between food resources cannot increase indefinitely and strong demographics.

In XXI century, African fertility remains high (5 children per woman, even higher in some very poor countries such as Niger). The population of Africa never ceases to explode and go in the twenty-first century one (in 2011) to 3.5 billion (at the end of the century)<sup>1</sup>.

But too often in Africa, people depend too:

- 1) From inefficient unsustainable farming techniques, originally low agricultural yields<sup>2</sup> and the destruction of the environment, such as shifting cultivation.
- 2) From energy for heating and cooking, misused and whose collection is destructive to the environment \_ as in the case of the production of charcoal (coal) and the use of household sources to cook, wasteful wood resource.
- 3) From the use of a single plant \_ or very limited food plants \_ for food during the year (rice, maize ...) number.

All this leads to a catastrophic and widespread deforestation in Africa, with many ailments related to this deforestation erosion, gully erosion, loss of good fertile land, dry climate, desertification, climate change and global warming unfavorable to crops, loss of biodiversity<sup>3</sup>.

Persistence in use by Africans, inadequate and inefficient farming techniques and inefficient energy production is related to ignorance, by the latter, disastrous long-term effects of their practices (these effects are often barely visible on the scale of a single generation).

This ignorance is also related to lack of knowledge about the most effective and sustainable alternative techniques. Poverty, in that it prevents access to school and education, further strengthens this ignorance and persistence of inappropriate practices.

Since the late 1990s to 2000, the gardens or farms or teaching school<sup>4</sup>, with very different ways and sizes began to emerge to try to change these practices<sup>5</sup> ... But however these experiences remain isolated from each other because do not communicate with each other<sup>6</sup> and their influences are locally limited<sup>7</sup>.

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<sup>1</sup> The birth rate in Africa, <http://www.planetoscope.com/natalite/20-nombre-de-naissances-en-afrique.html>

<sup>2</sup> Themselves are declining with time.

<sup>3</sup> Disappearance of useful plants with multiple uses, food, medical, etc. fight against pests.

<sup>4</sup> Or school farm.

<sup>5</sup> Examples a) in Benin, Togo and Nigeria, the network FFS SONGHAI, [www.songhai.org](http://www.songhai.org),

b) in Benin, school gardens initiated by AJEDD association, [http://benjamin.lisan.free.fr/developpementdurable/Projets\\_de\\_Daniel\\_Oke.pdf](http://benjamin.lisan.free.fr/developpementdurable/Projets_de_Daniel_Oke.pdf)

c) in Madagascar, educational farm Manonpana (East Coast)

([http://benjamin.lisan.free.fr/developpementdurable/Visite\\_de\\_la\\_ferme\\_pedagogique\\_de\\_Manonpana.pdf](http://benjamin.lisan.free.fr/developpementdurable/Visite_de_la_ferme_pedagogique_de_Manonpana.pdf),

d) Madagascar, a vegetable garden on the edge of Park Masoala (East Coast), <http://www.generation-masoala.org> etc. ...

<sup>6</sup> Currently, they do not communicate among themselves, the results of their experiments.

<sup>7</sup> At the level of the village or the surrounding area. These experiences are very different.

## The school aims for sustainable development in Africa :

The goals of this school are:

### A) Train Africans

- 1) Sustainable farming more efficient technologies, ensuring food security in the long term.
- 2) The diversification of their food resources (teach them the culture of other food crops, other fruit trees etc.).
- 3) A better use of their energy resources<sup>8</sup> and diversification of these resources<sup>9</sup>.
- 4) Better use of water level (techniques for capturing, transporting and saving: the pump, drip ...).

### B) To help reduce poverty:

- 1) Assisting in the creation of micro-enterprises or in their entrepreneurial projects<sup>10</sup>.
- 2) Assisting in the establishment of cooperative production.
- 3) Assisting in the development of processing industry instead<sup>11</sup>.
- 4) Assisting in the development of animal husbandry such as animal<sup>12</sup> or source of income.
- 5) Actions to empower women.

## The steps of the school project of sustainable development in Africa :

In my mind, this is the first initiative to support African inventive, imaginative and full of initiatives, trying themselves to establish gardens schools, farms schools and teaching schools, "barefoot" technicians<sup>13</sup> school for sustainable development etc.. They find or provide scientific and financial support to help them set up their project (school garden or other ...). Then if their project "hold up" help little by little, step by step, through continued support remote (Internet) or on site to set up their own teaching school, education for sustainable development, gardening, agriculture, forestry, mechanical, manufacturing of small tools (agriculture, processing of agricultural products, etc..).

It is clear that the implementation of such a project will require a lot of patience, to take account of local realities, local needs, local climate, to motivate or interest people in the region to this project. Schedules or the time it takes for the project participants are also dictated the rate of growth of plants or trees (if it is an agricultural and forestry project), the herd or animals (if it is a breeding project), with the speed to get, or not, capital and support real friends, experts and competent people ...

The idea is to proceed by step by step, in a very gradual and realistic, for example according to this schedule:

- 1) Creation of the association.
- 2) Search for a capital) Acquisition of titled land bounded b) purchase of tools, c) pay the gardener and head of school garden, b) operating costs.
- 3) Acquisition of titled land bounded (over 1000 m<sup>2</sup>), next to a school, college, cooperative.
- 4) Search large quantity of straw, hay, grass clippings, dead leaves, fragmented RCW, topsoil and other plant waste...
- 5) Improvement of fertility of the garden by mulching (mulch) of the soil with plant waste collected in the previous point.
- 6) Learning the technique of direct seeding, mulching and composting (earthworm composting etc.).
- 7) Plantation (the rainy season) and learning culture food crops, fruit trees (care)...
- 8) Use of repellent plants to repel pests (tobacco, *Desmodium*) and attractive to attract pests Herbs (elephants ...) (push-pull techniques, plant guilds).

The principle of this school garden is organic gardening, pesticide and herbicide:

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<sup>8</sup> Firewood, for example by the use of efficient wood cooker (EPC).

<sup>9</sup> Using solar cookers for cooking, wind to pump water, generate electricity from solar, wind or pico-hydro.

<sup>10</sup> Creating sales shop, restaurants or "taverns", bakeries, mini-processing industries (pressing and manufacture of oils, soaps, shea butter, essential oils ...) etc.

<sup>11</sup> Changes in crops, animals, manufacturing small tools etc...

<sup>12</sup> Broilers, laying hens, rabbits, pigs, sheep, goats, cane rats, guinea fowl etc. ...

<sup>13</sup> Technicians agronomists, foresters, engineers ...

- 1) fight against evil by grass by smothering them with a sufficiently thick mulch.
- 2) fight against pests (by push-pull, plant guilds, bio control (to see)).

In the final, the purpose of the garden is also generate profits for reinvestment in other productions:

- 1) Changes in agricultural products,
- 2) Fish (eg *tilapia* herbivore of *pangasus*, carp with vegetable croquettes)
- 3) etc.

Funding for the purchase of land and tools would be provided initially by donations or loans<sup>14</sup>, until the project is financially self-sufficient.

These are only small ideas or suggestions.

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<sup>14</sup> For example, the model of "Zolidarity savings" (Zebus Overseas Board) plan for the purchase of zebu in Madagascar  
<http://www.zob-madagascar.org/index.php?do=plans>