



Reclaiming life in marginal areas

Reclaiming life in marginal areas and fragile ecosystems through innovative solutions: The case of bocage perimeters in Burkina Faso

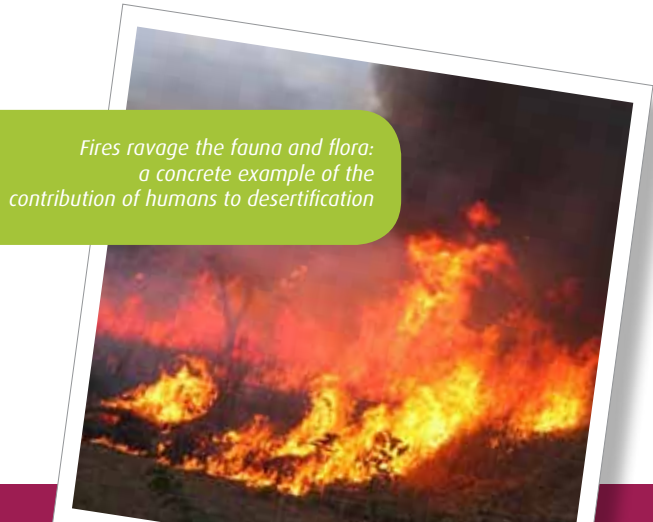
Human activities have helped to speed up the process of desertification in Burkina Faso. In order to curb this scourge and its disastrous consequences, the NGO "TERRE VERTE" has, since 1989, carried out a rural development project referred to as bocage perimeter, ("Wegoubri" in the Mooré language).

This new concept has helped to develop and enhance degraded lands.

Over fifteen years, the NGO has developed a reliable system that should be shared widely.

The project began with the establishment of a pilot farm in Guié, central Burkina. It has then been relayed in the following locations:

- In the village of Filly, Yatenga Province, a bocage perimeter of 23 hectares was established in 2007, followed by another perimeter of 86 hectares in 2009.
- The village of Goèma, in Sanmatenga Province, was involved in the pilot farm in Guié. The foundations of the pilot farm were laid in December 2008. In 2010 a large bocage perimeter of 130 hectares was inaugurated not far from the farm, which itself extends over 40 hectares.



Fires ravage the fauna and flora: a concrete example of the contribution of humans to desertification



Desert landscape after the passage of fire

THE PROJECT

Definition and objective of the concept

A bocage is a balanced environment, created to combine trees, crops and livestock.

The concept of a bocage perimeter is created to solve the problems associated with extensive agriculture (overgrazing, erosion, fires etc.). A bocage perimeter is the result of land consolidation at the request of owners of a site. The owners work in 'land groups' to make environmental improvements to a plot.

The primary purpose of a bocage is to retain water where it falls by developing bunds, ponds and hedgerows. This helps reduce the erosive action of monsoon rains and helps maintain the biodiversity of an extremely fragile environment.

Principles of the concept

The concept is based on the creation of grouped bocage perimeters composed of individual parcels and outbuildings.

Several structures make up the bocage perimeter including, from outside inwards:

- The firewall surrounds the whole area to guard against fire, a constant risk in the Savannah;
- The fence blocks the path from wandering livestock. It is composed of a fence, sandwiched between two rows of bushes;
- The openings allow access to the site. Four gates let in bicycles and pedestrians; a main barrier is used for livestock and tractors;
- The main and secondary roads are used to serve each field;
- A Bulli (large pond) recovers surrounding waters for watering livestock.

Individual plots receive all the benefits in improvement of agriculture and livestock from the outbuildings, while preserving private property. Each owner gets a number of fields in the shape of a square, allowing bunds to move according to slope changes of the terrain, rotating the orientation of the fields inside the square.



Mr Kaboré, member of the local community of Guiè, gives the following testimony:

“This project has revived some plants of great value both from the point of view of food and traditional medicine. Now we see, growing in the hedgerows, trees planted by the wind or birds, which had disappeared. ”



Progressive revegetation of drylands with trees

Each field is accessible by road and is surrounded by an earth bund lined with a hedge. At the bottom point of the field, a small pond is set up for excess water runoff.

Large trees are aligned in the field to facilitate manual or mechanical agricultural practices.

As well as bocage perimeters, other infrastructure is developed including:

- installation of rain gardens near homes;
- development of bullis to preserve rural areas from water damage;
- construction of wide rural roads in and between villages.



Integrated approach combining agriculture and livestock

The management of a bocage

The management of these fields is organized around a land group of beneficiaries and is based on the implementation of the following:

- maintenance of earth bunds;
- replacement of dead trees for proper implementation of hedgerow seeding and planting;
- maintenance of structures (roads, firewalls, mixed hedges, bullis), the backbone of bocage perimeters;
- cutting hedgerows every 5-7 years.

In addition to these maintenance activities, the following techniques are essential for maintaining soil fertility:

- The use of composting for the renewal of soil humus;
- Crop rotation to avoid the depletion of the soil and prevent pest and weed infestation associated with a particular crop;
- Fallow which promotes the active recovery of land from the effects of exhaustive agricultural practices (development of pests, depletion of certain minerals, impact on soil structure);
- Ecological livestock farming that preserves the environment by adapting the livestock density to the fodder available.



Vegetation in full bloom

RESULTS ACHIEVED

- The recovery of all rainwater without erosion: The earth bunds, hedgerows and ponds prevent rainwater runoff. Water seeps into the soil and can leave the field only by evapotranspiration of the soil and plants.
- The restoration of biodiversity: The project helped to restore the biodiversity of an extremely fragile environment. In the area where the project was developed, a balanced environment, combining trees, crops and livestock, was set up; man and nature are now living in perfect harmony.

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Improving farmers' access to land: Through the creation of bocage perimeters, farmers now have an environment that enables them to better face the

future. This environment provides land security, protection against fire and the straying of livestock, improvement of the environment, and food and water security.

In addition to the preservation of the environment, the following results were obtained:

- improvement in the health status of herds that now have an abundance of fodder;
- improvement of production;
- effective integration of livestock with agriculture (through the use of organic manure).

Creation of a training centre for rural developers of Guiè: Since 1990, the pilot farm of Guiè has informally welcomed many young people to join in with its activities (workshops on nurseries, breeding, sustainable agriculture and development and maintenance of rural space). In January 2008, this was formalised by the creation of the **Training Centre for Rural Developers of Guiè (CFAR)**, which prepares the youth to be operational in the fight against soil degradation.

CONCLUSION

The bocage perimeter is based on the conservation of rainwater and of the soil. These two elements are closely linked; by preserving one we preserve the other.

When water is kept in the field, the vegetation grows sustainably. The pilot Farm of Guiè, and the other farms created afterwards, have developed and compiled techniques to reclaim the degraded land of the Central Plateau in Burkina Faso. They have succeeded at integrating the safeguarding of the environment into Sahelian agriculture. This initiative has helped bring back life where it had disappeared.



Mr Issouf Ouedraogo, a young student of the Training Centre for Rural Developers of Guiè (CFAR) gave the following testimony:

“My time at the Training Centre for Rural Developers of Guiè (CFAR) was a unique experience. I learned a lot of things and the main lesson I learnt is that man can rebuild what he himself deconstructed and destroyed. Both the destruction of biodiversity and land degradation are not inevitable. It is possible to reverse the trend if we choose to. I am pleased with the prospect of contributing to the development of my region by reinvesting the gains from this training where it is needed. ”

CONTACT

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