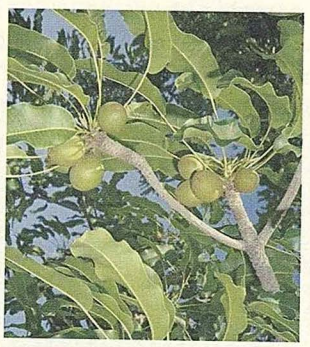
From an ecological standpoint, the agro-ecosystems modelled by farming practices (land clearance, multi-purpose agroforestry parklands, fallow land) produce a landscape mosaic with a mixture of successive vegetation development stages in separate patches, providing a variety of different agro-ecological niches. One important point is to maintain this landscape mosaic, which can both meet the local population's needs and provide an agro-ecological gradient between the village lands and the park.

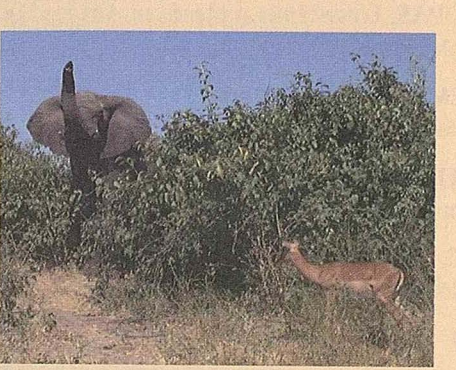
With this in mind, research is under way on the different ways the agroforestry systems work and their viability in the context of the cotton agricultural frontier on the one hand, and limitations on access to land on the other hand. Other research concerns interactions between insects and different farming practices. Whereas the density of some species such as Nymphalidae diminishes with distance from the conservation area, others such as Cetonidae benefit from limited land uses - gathering and grazing - that produce a more open landscape. Thus the choice of crops at the periphery of the park is a vital question for the management of the protected area.



• The shea nut tree (Karité), a world-famous African tree, prized for its fruits and the fat content of its seeds, has shown that its genetic diversity results from the combination of manmade action and biological factors.
This tree has strong genetic diversity, which may explain its omnipresence in the agroforestry parklands so carefully tended by the farmers.

Elephants in the Zakouma national park: pests or consumers?

In Chad as elsewhere in Africa, pressure from elephants can compromise biodiversity conservation in protected areas. Studies of Acacia seyal and Combretaceae savanna in Chad's Zakouma national park have shown that elephant damage is localised and seasonal, because most elephant populations can only stay in the park during the dry season.
Plant biodiversity is therefore high despite heavy pressure from browsing elephants and the fact that all ligneous species are browsed, particularly trees between one and six metres tall. Mortality is quite high in the Acacia seyal savannas but most ligneous species are resilient, fire-resistant and regenerate well. The largest trees suffer no damage and produce seed for the species to reproduce.



• The regional "Parc W", a major challenge for biodiversity is the last big refuge for wild animals in West Africa. It is a regional park created when three countries (Benin, Burkina Faso, Niger) with neighbouring parks took the political decision to manage them together.
ECOPAS, a regional research programme, was launched to allow the local populations to continue living in the region without causing irreparable damage to the environment and the natural resources.